

Guideline Document

**Uniform Framework
for
Extended Producers
Responsibility**

**(Under Plastic Waste
Management Rules, 2016)**

**Ministry of Environment, Forest and Climate Change
June, 2020**

1.0 Background

Ministry notified Plastic Waste Management Rules, 2016 on 18th March, 2016. As per the Rules, the generators of waste have been mandated to take steps to minimize generation of plastic waste, not to litter the plastic waste, ensure segregated storage of waste at source and handover segregated waste to local bodies or agencies authorised by the local bodies. The rules also mandate the responsibilities of local bodies, gram panchayats, waste generators, retailers and street vendors to manage plastic waste. The Rules mandates several new provisions including the provision of Extended Producers Responsibility.

2.0 Important definitions

- (a) **“brand owner”** means a person or company who sells any commodity under a registered brand label.
- (b) **“extended producer’s responsibility”** means the responsibility of a producer for the environmentally sound management of the product until the end of its life;
- (c) **“importer”** means a person who imports or intends to import and holds an Importer - Exporter Code number, unless otherwise specifically exempted.
- (d) **“manufacturer”** means and include a person or unit or agency engaged in production of plastic raw material to be used as raw material by the producer.
- (e) **“multilayered packaging”** means any material used or to be used for packaging and having at least one layer of plastic as the main ingredients in combination with one or more layers of materials such as paper, paper board, polymeric materials, metalised layers or aluminium foil, either in the form of a laminate or co-extruded structure;
- (f) **“producer”** means persons engaged in manufacture or import of carry bags or multilayered packaging or plastic sheets or like, and includes industries or individuals using plastic sheets or like or covers made of plastic sheets or multi-layered packaging for packaging or wrapping the commodity;

3.0 Provision of Extended Producers Responsibility in the Rules

Responsibility of producers, Importers and Brand Owners. - (1) The producers, within a period of six months from the date of publication of these rules, shall work out modalities for waste collection system based on Extended Producers Responsibility and involving State Urban Development Departments, either individually or collectively, through their own distribution channel or through the local body concerned.

- (2) Primary responsibility for collection of used multi-layered plastic sachet or pouches or packaging is of Producers, Importers and Brand Owners who introduce the products in the market. They need to establish a system for collecting back the plastic waste generated due to their products. This plan of collection to be submitted to the State Pollution Control Boards while applying for Consent to Establish or Operate or Renewal. The Brand Owners whose consent has been renewed before the notification of these rules shall submit such plan within one year from the date of notification of these rules and implement with two years thereafter.
- (3) manufacture and use of multi-layered plastic which is non-recyclable or non-energy recoverable or with no alternate use should be phased out in Two years' time. (As amended vide Notification dated 27th March, 2018)
- (4) The producer, within a period of three months from the date of final publication of these rules in the Official Gazette shall apply to the Pollution Control Board or the Pollution Control Committee, as the case may be, of the States or the Union Territories administration concerned, for grant of registration.
- (5) No producer shall on and after the expiry of a period of Six Months from the date of final publication of these rules in the Official Gazette manufacture or use any plastic or multilayered packaging for packaging of commodities without registration from the concerned State Pollution Control Board or the Pollution Control Committees.
- (6) Every producer shall maintain a record of details of the person engaged in supply of plastic used as raw material to manufacture carry bags or plastic sheet or like or cover made of plastic sheet or multilayered packaging.

Defining the Responsibility

As per the Rules, **“producer”** is defines as *persons engaged in manufacture or import of carry bags or multilayered packaging or plastic sheets or like, and includes industries or individuals using plastic sheets or like or covers made of plastic sheets or multilayered packaging for packaging or wrapping the commodity*;. Therefore, responsibility of working out the modalities for waste collection system based on Extended Producers Responsibility lies with the manufacturers, importers and users.

In the rules, the primary responsibility for collection of used multi-layered plastic sachet or pouches or packaging is of Producers [manufacturers, importers and users(brand owners)], Importers and Brand Owners who introduce the products in the market. They need to establish a system for collecting back the plastic waste generated due to their products.

The rules mandate the producer (manufacturers, importers and users(brand owners)) to apply to the Pollution Control Board or the Pollution Control Committee, as the case may be for grant of registration. (The registration procedure is illustrated in following sections)

Fundamentally, Producer is defined in such a way that, the definition covers all manufacturers, importers and users (brand owners) as producer.

4.0 Global Practice

Countries like Belgium, Czech Republic, Ireland, Italy, France, Netherlands, Norway, Portugal, Spain have the scheme where obliged industry creates one common non -profit entity that collects the necessary funding, cooperates with local authorities and ensures recycling in the most cost-efficient and environmental way. This reduce its public spending spent on waste management by almost 15%. The countries like Austria, Germany, Sweden have adopted dual model where Industry has full operational and financial responsibility over collection, sorting and recycling. There is a separate collection system designated to local authorities but their influence is minimal. The United Kingdom has a model where a customer at time of purchasing a product pays the price of the product however a fraction may be reserved with the shopkeeper until the container of the item is returned. Under European Commission's model the major goal set up was to have all member states recycle 25% of their total packaging material which was accomplished by 2010.

5.0 Examination in the Ministry

A committee was constituted to evaluate mechanism for the implementation of the provisions of Plastic Waste Management Rules, 2016 especially with respect to Extended Producer Responsibility (EPR). Several meetings were held in this regard including a meeting at Ahmadabad Municipal Corporation on 03.11.2017 and a stakeholder's consultation meeting on Plastic Waste Management Rules, 2016 and Solid Waste Management Rules, 2016 on 27th December, 2017. Various stakeholders made detailed presentations before Committee on the major issues faced by them in the Rules.

Further, the Ministry has worked out models for a uniform framework for EPR. The same has been circulated to various stakeholders during the Regional Workshop conducted by the Ministry and CII on 12th and 13th November 2018 in Bangalore and 19th and 20th December 2018 in Ranchi and on 20th and 21st January 2019 in Chandigarh. A visit was made by the Ministry to understand the Indore model of implementation of Waste Management Rules viz a viz a meeting was organized with Commissioner, Indore Municipal Corporation and their implementing agencies to work out if such model can be adopted under EPR. Further a stakeholders meeting specific to the industry (producers) was conducted in the Ministry to showcase the model and to receive the comments.

Several comments were received by the Ministry from various stakeholders and a final draft guideline document on uniform framework on EPR is prepared.

6.0 Observations of the Committee

It is noted that the responsibility of waste collection and segregation rests solely with the ULBs. Handing over this responsibility or even a part of this, to the producers would be very impractical and inefficient. We would have a situation wherein there would be multiple channels for waste collection leading to large inefficiencies. Similarly, if the waste segregation is not done at source, it would be difficult to expect producers to implement EPR. Further, the committee noted that collection and segregation of household waste is basic responsibility of the ULBs. Shifting them to producers is neither desirable nor feasible.

The Committee further suggested that a suitable fee based system should be evolved depending on the quantum of production of plastics by the producers/importer/ brand owners. This fee would get collected into a fund which would be used only for the purpose of plastic waste handling/collection/segregation/treatment/processing.

The Ministry during the stakeholders' consultation received comments wherein the stakeholders suggested that only one single model on EPR may not work for the country like India. Therefore, it was decided that apart from the fee based model, PRO based model will also become part of overall implementation of EPR. Further, the individual producer/importer/brandowner was also given a chance to execute his own project for the management of plastic waste under EPR compliance. A plastic credit based model can also become part of over EPR implementation.

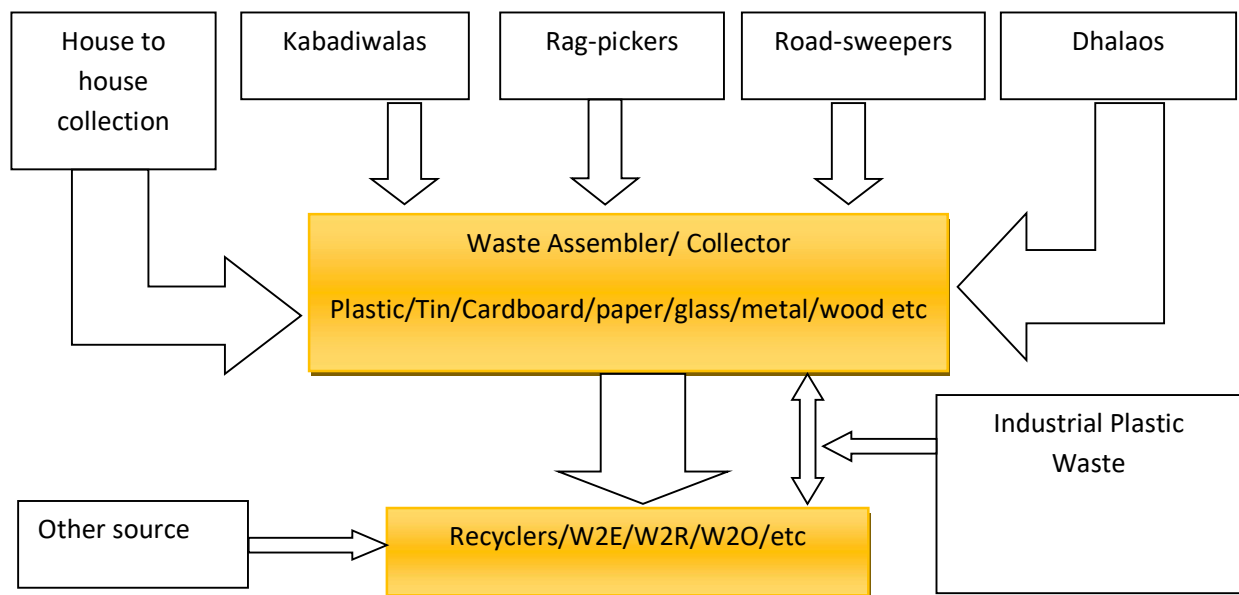
7.0 Flow of Plastic Waste

There are approx 5-6 streams through which the plastic is collected in any ULB. (1) In many states, the ULB has adopted the system of house to house collection. There may be a collection of mixed waste, collected in single bin. This mixed waste is collected by waste collector and during collection, the waste collector sort out the plastic from the mixed waste at some location and remaining waste is sent to dumping ground. Where there is 2 bin collection system is adopted, the segregated waste is collected from the houses where the recyclable waste and bio-degradable waste is segregated using 2 bin system. The plastic so collected mostly contain grocery packaging, polyethene bags, shampoo bottles, pet bottles etc. This plastic is sent to recyclers /cement plants/waste-to-road/waste-to-oil/thermal power plants/waste to energy plants etc. Where there is no house to house collection, the waste is collected from the secondary collection point (dhalao) and transported to dumping site/partially to waste to energy plants. In bigger cities, there are transfer stations where the waste is directly transferred to bigger containers (16 ton – 20 ton vehicles) so that the same can be carried to the dumping grounds. (2) There is another system of collection of plastic through kabadiwalas. The kabadiwalas reach the

houses/commercial establishments/markets where the plastic is sold to kabadiwalas. (3) The third stream of plastic is from the rag pickers. Most of the rag pickers collect the plastic from the dumpsites in the morning hrs and then in the day time they collect the plastic from the streets/markets etc. (4) The forth stream of plastic is from the road sweepers. The sweepers collect the plastic bottles etc while sweeping the roads in the morning and collect it in separate bags for selling. (5) The fifth place is the dhalaos' from where the rag pickers (generally the dhalao are allowed for the rag-picker/collector who sort out the plastic from dhalao. (6) Sixth is the industrial plastic waste which, after being circulated among other industries may partly come to the recycler or to the assembler and then recycler.

Although the flow has been shown as linear, however, there are many possibilities in which the plastic is flowing. Mainly, it may happen that the kabadiwala himself be an assembler and directly sending the waste to the recycler or there is a chain of 2-3 assemblers, after which the waste is reaching to the sorter-balers and then to the recycler. The flow of the material mostly take place in the fashion shown below.

8.0 Material Flow for Plastic



9.0 Uniform Framework on EPR

“Extended Producer Responsibility” may be defined as a *policy principle to promote total life cycle environmental improvements of product systems by extending the responsibilities of the manufacturer of the product to various parts of the entire life cycle of the product, and especially the take-back, recycling and final disposal of the product*¹.

The system is based on the premise that producers are required to provide financial incentive to the collection systems, processing facilities and the recycling industry to collect and process plastic waste in order to meet the targets set out by the Government.

The plain interpretation of the Plastic Waste Management Rules, 2016 illustrates the primary responsibility for collection of used multi-layered plastic sachet or pouches or packaging is of Producers (manufacturers, importers and users (brand owners)), Importers and Brand Owners who introduce the products in the market. They need to establish a system for collecting back the plastic waste generated due to their products. The Rule 6(3) mentions that the local body for setting up of system for plastic waste management shall seek assistance of producers. However, the Rule is silent on allocating any responsibility to the producer/importer/brandowner for establishing other part of waste management system like transportation, material recovery, recycling and final disposal.

For the overall implementation of the EPR framework it is important that the producer/importer/brandowner should be involved in overall implementation of the projects and not only the collection.

9.1. Online portal for registration and record keeping

The uniform framework for EPR shall be based on creation of national registration and database repository through which all the registration of various stakeholders will be done online. Further, the stakeholders need to timely update the requisite information in the database for proper functioning.

The Ministry through reputed software/website development agency, shall develop the web portal for the purpose in consultation with the stakeholders. All transactions under EPR shall be governed through the web portal. The monitoring system shall be established by CPCB to monitor the implementation of EPR mechanism through the portal. An institutional mechanism

¹ Lindhqvist, T. (2000). Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems IIIIEE, Lund University

shall be developed by CPCB to take over the management of web portal. The compliance of all registration related activities, as stipulated in the PWM Rules, 2016, shall be governed through the uniform framework portal. SPCBs can access the portal for the related activities.

9.2. Existing legislation with respect to registration

Registration of producer, recyclers and manufacturer,- (1) No person shall manufacture compostable carry bags or multilayered packaging unless the person has obtained a registration from the State Pollution Control Board or the Pollution Control Committee of the Union Territory concerned, or the CPCB as the case may be, prior to the commencement of production;

(2) Every producer or brand-owner shall, for the purpose of registration or renewal of registration, make an application, in Form 1 to, -

- (i) the concerned State Pollution Control Board or Pollution Control Committee of the Union territory, if operating in one or two states or Union territories; or
- (ii) the Central Pollution Control Board, if operating in more than two States or Union Territories.”.

(3) Every person recycling or processing waste or proposing to recycle or process plastic waste shall make an application to the State Pollution Control Board or the Pollution Control Committee, for grant of registration or renewal of registration for the recycling unit, in Form II.

(4) Every manufacturer engaged in manufacturer of plastic to be used as raw material by the producer shall make an application to the State Pollution Control Board or the Pollution Control Committee of the Union territory concerned, for the grant of registration or for the renewal of registration, in Form III.

(5) The State Pollution Control Board or the Pollution Control Committee shall not issue or renew registration to plastic waste recycling or processing units unless the unit possesses a valid consent under the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) along with a certificate of registration issued by the District Industries Centre or any other Government agency authorised in this regard.

(6) The State Pollution Control Board or the Pollution Control Committee shall not renew registration of producer unless the producer possesses and action plan endorsed by the Secretary in charge of Urban Development of the concerned State or Union Territory for setting of plastic waste management system.

(7) On receipt of the application complete in all respects for the registration for recycling or processing of plastic waste under sub-rule (3), the State Pollution Control Board may, after such inquiry as it considers necessary and on being satisfied that the applicant possesses appropriate facilities, technical capabilities and equipment to handle plastic waste safely, may grant registration to the applicant on fulfilment of the conditions as may be laid down in terms of registration.

(8) Every State Pollution Control Board or Pollution Control Committee shall take a decision on the grant of registration within ninety days of receipt of an application which is complete in all respects.

(9) The registration granted under this rule shall initially be valid for a period of one year, unless revoked, suspended or cancelled and shall subsequently be granted for three years.

(10) State Pollution Control Board or the Pollution Control Committees shall not revoke, suspend or cancel registration without providing the opportunity of a hearing to the producer or person engaged in recycling or processing of plastic wastes.

(11) Every application for renewal of registration shall be made at least one hundred twenty days before the expiry of the validity of the registration certificate.

The online portal is envisaged to resolve the issues related to registration of the stakeholder under PWM Rules, 2016. The single registration on the portal shall be sufficient to get registration. This portal will help in online registration of all the stakeholders across the country. The producer, importer and brand owners as prescribed in the Rules shall have to register to the portal irrespective of the quantity of plastic being used by them. Further, PROs, recyclers and other stakeholders as per the requirement shall have to register to the portal.

9.3. Extend Producers Responsibility

For the implementation of overall framework under EPR, various models are suggested in the framework document. There are 7935 towns in the country. Every town is generating plastic waste and approximately all major brand owners have their presence in these towns. Therefore, any single model on EPR may not be suitable to be implemented in the country

In the 2011 Census, 475 places with 981 OGs have been identified as Urban Agglomerations as against 384 UAs with 962 OGs in 2001 Census.

Number of UAs/Towns and Out Growths (OGs):

	Type of Towns/UAs/OGs	Number of towns	
		2011 Census	2001 Census
1	Statutory Towns	4,041	3,799
2	Census Towns	3,894	1,362
3	Urban Agglomerations	475	384
4	Out Growths	981	962

At the Census 2011 there are 7,935 towns in the country. The number of towns has increased by 2,774 since last Census. Many of these towns are part of UAs and the rest are independent towns. The total number of Urban Agglomerations/Towns, which constitutes the urban frame, is 6166 in the country.

Therefore, for the ease of implementation and also for the participation of each and every town and every producer/importer/brand owner, the framework document provides following different models.

9.3.1 Model 1 – Fee based model

The primary responsibility of the collection and segregation and final disposal of the plastic waste is with the ULBs. In the present scenario, the ULBs do not have sufficient funds and expertise for systematically collect the segregated plastic waste and then supply it to the recyclers/cement plants/etc. There is a need to build the capacities of the ULB in terms of infrastructure development and their expertise so that the waste management can happen systematically under the EPR mechanism. This on one hand will implement the waste management in any ULB and on the other hand generate revenue for the ULB. The smaller ULBs where there is no facilities available for recycling or disposal of plastic waste, the ULBs can store the plastic waste in the form of bales/pallets for any period of time, till a reasonable disposal method is available.

Secondly, an important factor which is indirectly contributing to the cleanliness of the city are the rag pickers/assemblers/recyclers. They are anyway contributing to the mechanism of EPR without any benefit. This fraction of the stakeholders should be supported for the better management of the waste under the mechanism of EPR.

Thirdly the component of Information, Education and Communication (IEC) activity should be supported through the component of EPR to achieve an effective waste segregation, collection, transportation and recycling.

It can be inferred that there are 2 focal points where the waste is accumulating. One is the waste collector/assembler and other, the recycler. Therefore, these are the 2 important points which should be given priority if the overall plastic waste management has to be improved. These focal points being readily available can give immediate results, if taped, through the uniform framework of EPR.

Therefore, for proper implementation of EPR mechanism at the national level through the fee based model, the framework is addressing 3 issues. One is the ULB, other is the plastic assembler and recycler and rag-pickers the third component is the IEC activity. The informal sector like rag-pickers/kabadiwalas/assemblers/recyclers have to be formalized and further strengthened for proper functioning of the EPR model.

Under the fee based model, it is proposed that the producers/importer/brand owner who are using less quantity of plastic for packaging (cut-off quantity shall be decided by the Government after the registration process) shall contribute to the EPR corpus fund at the central level. This may be an escrow account managed by an SPV where private and other stakeholders can become members.

The amount to be contributed by each of the producers/importer/brand owner will be decided based on normative cost. These calculations are based on the generation of plastic waste viz-a-viz the efforts required and money spent by the ULB/Government to handle the plastic part of the waste.

Therefore, under the Uniform Framework of EPR funding will be provided to 3 entities, one is the ULB, second is the assembler/recycler and the third is for conducting IEC activities.

A Committee will be constituted at the central level for overall monitoring the implementation of the EPR. The State Level Advisory Boards (SLABs) constituted under the Solid Waste Management Rules, 2016 at the state level may be engaged to manage the process of recommending the disbursement of funds to the ULBs, recyclers and for IEC activity. Representative of producers/importer/brand owner become a part of SLABs.

The proposal of ULBs will be compulsorily for the management of plastic waste. Like the house-to-house segregation and collection of plastic waste, equipment's and gears for the rag-pickers and their registration (assemblers has to make a list of their associated rag-pickers and help them to get registered with the ULB), supply mechanism with cement plant etc, plastic to road project, infrastructure for material recovery centers, conveyor belts for sorting, baling units etc.

For the assemblers and recyclers, they need to register themselves with the ULBs and SPCB to be a part of EPR and also at the national registry.

Funds can be allocated by SLABs to the State Pollution Control Board/other agencies for the IEC activities. SPCBs can appoint select agencies for conducting IEC activities. A systematic implementation schedule can be prepared by SPCB and based on the schedule they can conduct IEC activities.

9.3.2 Model 2 – PRO based model and Plastic Credit Model

Under this model, the objective is to establish a Producer Responsibility Organization (PRO) to lead on implementation and provide funding required under the Rules on behalf of producers

(including brand-owners, importers etc) to support plastic recycling while also promoting the ease of doing business for all stakeholders.

Local bodies and some states do not have the expertise or resources to design, implement and manage effective local plastic waste management programs. This can be addressed by having a industry self-managed PRO take on the responsibility for discharging producer's national and state legal obligations in a more efficient and cost effective manner by applying industry's experience gained through successful producer responsibility programs implemented in other jurisdictions. Successful implementation of a national plastic waste management program will require close cooperation between the states who have the lead responsibility for the design and implementation of appropriate local programs and the obligated industry through a dedicated PRO that can bring experience, expertise and resources to this challenge across the entire plastics chain.

Producers will be at liberty to decide options for establishing channels of collecting plastic credits with or without forming or linking with PROs. A producer with utilization of such mechanism would nevertheless secure plastic credits upon recycling or recovery of the collected plastic through an accredited processor/exporter. The producer/importer/brand owner by the collect back/buy back mechanism may collect the plastic waste and directly take credit from the recycler. In any case the transaction need to be registered on the online portal.

Product take-back mandate and recycling rate targets. With this policy approach, the government mandates that manufacturers and/or retailers individually or collectively as a consortium (legally agreed between producers) take back products at the end of the products' useful lives. Combined with such mandates is some kind of recycling or waste diversion target. To meet these requirements, firms often form a "producer responsibility organization", or PRO, to handle collection, arrange for recycling, and ensure that recycling targets are met either by themselves or engaging the waste management agencies

Product take-back mandate and recycling rate targets, with a tradable recycling credit scheme. This approach is the same as above but instead of each individual producer meeting the same target, tradable credits are issued and firms are allowed to trade among themselves. An industry-wide recycling rate target would be met, but some producers would do better than the target and others worse.

Voluntary product take-back with recycling rate targets. In a purely voluntary approach, firms in an industry agree to organize a take-back system for their products and set recycling goals. There is no law or government regulation mandating compliance and no penalties for not meeting the goals.

9.3.3.1 Producer Responsibility Organizations (PROs)

As an alternative to taking complete operational responsibility for acquiring plastic credits, they can join a Producer Responsibility Organization (PRO). PROs will be registered in the framework to carry out the legal requirements on behalf of their member companies. They operate a kind of contractor service to the producers. However, the final responsibility of providing final evidence of reprocessing/ export of plastic packaging rests with the producer only.

PRO registration may be divided into 3-4 groups based on their experience in the field. However, start-ups can also register on the website as PRO. There may be a group 1 PRO who has experience in waste management sector more than 10 years. Group 2 can have 5 years, group 3-2 years and group 1 for beginners. This gives the brand owner and importer to select PRO based on experience. Further this will also give a chance to small start-ups who can provide solutions to small brand owners at local level or in far off places or small places where the experienced PRO does not want to go.

Registration process will involve sharing of information by the brand owner, importer, PRO, recyclers, ULB's. Brand owner will provide information on the number of States in which they are operating along with the quality of plastic which is being introduced in the State through packaging. This will eventually decide the EPR targets and EPR obligation/compliance that has been achieved. This holds same for the importer.

PRO registration will provide information on experience of PRO, its interest, capacities in terms of manpower net worth, its willingness to work in a specific State/ area etc.

Following are the guiding principles:

- i. Producers/importer/brand owner by their own or through PRO required to ensure that an equivalent amount of plastic is being collected and processed.
- ii. Producer/importer/brandowner/PRO will lead implementation and provide funding required under the Rules on behalf of producers to support plastic recycling.
- iii. The program shall promote the inclusion of waste pickers in a manner which improves their working conditions and incomes.
- iv. PRO/Producers/Importers can also obtain certificates from accredited processors [recyclers, W2E plant operators, cement co-processors, users utilizing plastic in road] in exchange of an evidence of recycling or recovery, which will act as ERP compliance.

- v. Producers/importer/brandowner will be at liberty to engage individually (through buy-back or deposit refund schemes) or collectively (through registered PROs) with the ULBs, processors and the informal sector.

The involvement of the PRO and his access in any particular ULB shall depend on the various factors. Several mechanisms may be adopted for the involvement of PRO for management of waste in any particular ULB through mutual coordination between the ULB and the PRO. However, there are certain guiding principles which are fixed:

- i. ULBs have the lead responsibility to set up and maintain adequate collection, segregation and sorting of plastic wastes and should share the costs of these programs with PRO in a manner which promotes effective and efficient program design.
- ii. All obligated producers (brand owners, importers etc) designated under the Rules must report on the quantities of these materials supplied into the India market in a manner which protects the confidentiality of proprietary information. (as mentioned in the section of national registration and data repository)
- iii. Manufacturer and PIBOs will share the detail of type of plastic used in packaging and should also share quantity of plastic consumed by them nationally.
- iv. Manufacturer and PIBOs shall submit the quarterly report on collection and disposal of all packaging plastics, including MLPs Online into the portal against their targets.
- v. CPCB shall create a national level association named PRO Association (PROA). All the registered PROs shall be the members of PROA and share all the data and information with PROA. Further, PROA shall submit all the data/ information of EPR with CPCB.

9.3.3.2 Audit and Certification

There shall be an independent authority (Certifying Agency) who would certify every quantity of waste recycled / disposed by the recycler. Which type of recycling / disposing would be eligible for funding would be based on the certificate issued by the certifying agency. The certificate shall be issued compulsorily based on the GST bills and the weigh-bridge bill of the recyclers and other important factors. A fool-proof mechanism shall be designed for issuing the certificate by the authority such that no repeat certificate can be issued for the same material which is processed once. (QR code based system shall be adopted, for better results)

9.3.3.3 PRO Funding Mechanism

This is a critical issue for obligated producers in the design and operation of the PRO and should be determined through consultation with affected companies. The common practice in other countries with established EPR programs for packaging is to assess a per kilogram fee rate for each specific plastic designated under the Rules. The methodology for determining the fee rates

and the allocation of total program costs across the plastics packaging chain should be established by the PRO in keeping with the program guiding principles. In particular:

- (a) The per kg fee shall be calculated to include a contribution from all plastic types to fund common program costs (including PRO design & set-up; governance & ongoing administration; reporting, auditing & enforcement; developing state specific plans and obtaining SPCB/SPCC consent; contracting for program services etc.

There is no commonly accepted methodology for sharing EPR program costs across the plastic packaging chain. Where such cost sharing formulae have been adopted (e.g. the UK) the specific percentage allocation has been negotiated among the obligated companies, though it is generally accepted that brand owners and importers should accept a higher percentage of these costs given their dominant role in material selection and packaging design. However, the final cost shall be decided based on the costing of funds being spent by municipalities on the plastic part of the waste management and also the environmental cost.

9.3.3.4 Targets

The targets for EPR compliance shall be based on the model selected by each producer, importer brand owner. Perhaps, the collection and disposal/recycling of plastic in the first year of establishing the components (rag-pickers, assemblers, MRF, recyclers etc) of value chain shall be difficult, however, once the components are established, achieving the targets shall be easier. A graded approach for achieving the targets shall be recommended in case of plastic waste management. Starting with 30% and moving upto 90% in a period of 5 years.

Furthermore, it is proposed that plastic waste collection and recovery targets be set for:

- a) A single consolidated recycling and recovery target for all obligated plastic packaging types (to be determined through industry consultation)

9.3.4 Plastic credit model

A plastic credit model is envisaged where a producer is not required to recycle their own packaging, but to ensure that an equivalent amount of packaging waste has been recovered and recycled to meet their obligation. However, producers are mandated to acquire evidence of recycling or recovery [PLASTIC CREDIT] from properly accredited processors [recyclers, W2E plant operators, cement co-processors, users utilizing plastic in road] or exporters.

Producers and processors/ exporters may exchange plastic credits for a financial transaction at a price and other terms as negotiated between them. The producers can exchange credits from processors that have been specifically accredited for this purpose and through proper registration at the EPR portal. The accredited processors therefore receive additional funding for every tonne

of packaging waste they reprocess and have an incentive to acquire further tonnage, thereby driving up recovery rates.

The system is designed to ensure that funding may be directed to remove bottlenecks in the material recovery chain through market corrections. Market would correct itself and guide funding to sources such as material collection, sorting, reprocessing or supporting end use markets. Hence, businesses will have incentive to support long-term investments to support their efforts.

The accreditation and registration of the recycler/processor shall form very important part of plastic credit system. The evidence of recycling in each case shall be fool proof and there shall not be any evidence of resale of credits in the market. EPR portal shall be used for registering the traceability of the plastic waste such that no plastic waste re-enter the value chain.

9.4 Processors/ Exporter

A producer itself or through a PRO can exchange Plastic Credits from processors/ Exporter which will be accredited by CPCB. Processors are institutions which involved in end-of-life management (recovery/ recycling/ processing) of Plastic Waste in accordance to Plastic Waste Management Rules, 2016. The processors will include businesses involved in:

- Plastic Recycling
- Waste to Energy
- Cement Co-processing
- Alternate User- Plastic to Oil/ Plastic in road construction
- etc.

Accredited/ authorized exporters which are involved in export of post-consumer plastic packaging waste can also exchange plastic credits. Only authorized/ accredited Processors will be allowed to exchange plastic credits with producers. Further, every time a processor issues credits to producers, the certificate of end-use has to be certified by a certified auditor.

9.5 Market-based Mechanism

The EPR framework is based on market forces and the MoEF&CC/ CPCB's job shall be to ensure transparency and compliance. MoEF&CC/CPCB will not be involved in collecting and disbursing funds. Funding the EPR system will be left to marketplace or any methodology devised by the Government.

9.6 Accurate market data

For the framework to work successfully, provision of accurate and timely market data is essential allowing all stakeholders to monitor and manage the system. In this regard, it is proposed to develop a database which will be accessible to all stakeholders and partners. The national registry and repository as mentioned above shall be used for maintaining the database.

9.7 Interaction with ULBs

The system is designed to ensure that market forces dictate the interaction between producers and Urban Local Bodies which are mandated under the Plastic Waste Management Rules, 2016 for segregation, collection, storage, transportation, processing and disposal of plastic waste.

It is estimated that during the initial years of implementation, producers (themselves or through PROs) will seek out plastic credits from processors who have established supply chains for collection, segregation and utilization of plastic waste. Hence the cost of credits will also be quite low. Processors can use the additional funds to improve collection/ segregation/processing facilities and compete for waste among themselves. This is expected to increase recovery rates and the market will generally perform better due to financial incentive for processors.

With subsequent years, increase in competition and increase in targets would result in producers trying to move beyond processors and engage directly in the supply chain to improve economies of collection, segregation and processing as well as introduce efficiencies in the supply chains. Further, producers which are already engaging with ULBs or the informal sector in management of solid waste or plastic waste would get a head start over non-movers in such a system.

Through organic, market-driven forces producers will engage with well-performing ULBs which have a sophisticated waste collection and segregation systems within its jurisdiction. Thus, ULBs will have incentive to perform better as they would be paid for the segregated waste collected by them. Over time, ULBs will see benefit improving waste collection, segregation and processing systems as it would a revenue stream for them.

9.8 Illustration: Ward wise approach adopted at Indore

Indore generates over 1,115 MT of garbage a day and all of it is collected from the source whether it is a household or commercial establishment. The door-to-door service was started in January 2016 as a pilot projects in two of the 84 wards in the city. It took almost a year to achieve 100% door-to-door garbage collection. Indore through its commendable collaborative efforts has achieved segregation of waste at source at 100% of its household's and commercial units.

Material Recovery Facility of 500 TPD capacity established by Indore Municipal Corporation (IMC). 700 Rag pickers are being provided livelihood through IMC, Material Recovery Facility (MRF). At MRF, sorting of all type of dry waste such as Paper, plastic, iron, glass, e-waste, polythene, rugs, leather, shoes, pet bottles, rubber etc. takes place.

A situation has been achieved at Indore where 100% of waste is segregated. The segregated waste is transported to the transfer stations, where the waste is compacted in separate 20 ton compactors. The waste is eventually transported to material recovery facility where the waste pickers are employed to segregate the waste into 18-20 streams. At the end of each day the waste pickers are selling their sorted waste to the operator of the MRF. Adopting this mechanism, each waste picker is earning handsome money every day. The sorted waste is easily saleable to the recyclers. The recyclers are queuing up daily for collecting their category of waste with an assured quantity and quality.

9.9 Area of intervention by PRO/ULBs/Producers etc

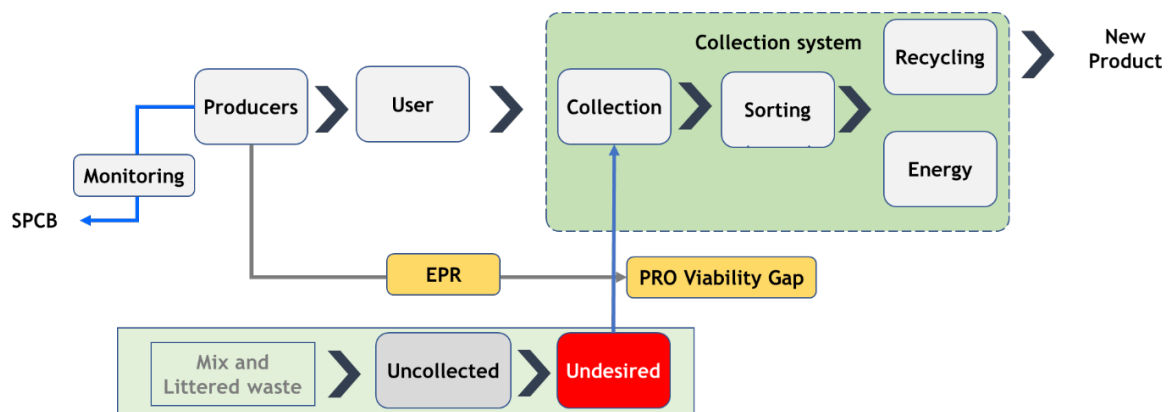
- i. Creating DPR that allows the ULB or Gram Panchayat (GP) demarcate land, develop and set-up infrastructure, allocate human resources, assign infrastructure, access funding from various sources, define by-laws to implement and sustain practices as per PWM 2016 rules.
- ii. Aligning ULB & Gram Panchayat departments and representatives to own, make decisions and review the progress of PWM on periodic basis. Institute a citizen committees at city, ward and community level to problem solve and adopt best practices
- iii. Design, implement, streamline and integrate waste value chain and generators to segregated collection, storage, transportation, processing and disposal of Solid & Plastic Waste.
- iv. Design, implement and ensure adoption of source segregation practices across various types of waste generators, capacity building of waste value chain and ULB & GP staff to ensure collective change.
- v. Improve the life chances of waste workers, contract labor and rag pickers. Enable access protective gear, hygienic working conditions, occupational identity, access to state government scheme for sanitation workers and provide access to a clear career path for the former and next generation.
- vi. Implement a traceability & accountability system aligned with PWM 2016 guidelines to enable ULB, PIBO, SLAB and all stakeholders to take data driven decisions based on the insights.

9.10 Cost of Plastic Credits

The cost of plastic credit will depend on the market perception of relative supply and demand. If there is reduction in generation of credits (for e.g. if major processors lose accreditation the cost of credits would increase, similarly, if there is a major disruption in the end-use recycled plastic market or many processors get accredited, cost of single plastic credit would drop)

9.11 Supplementing exiting system by creating value for Non valued waste by EPR

Various models currently being work out by the brands and PRO suggest that by incentivizing non valued waste it can be collected and safely disposed.



- To scale this up stakeholder to come together to collaborate and implement a comprehensive EPR mechanism collectively.
- There are **three major stakeholders** for enabling a comprehensive mechanism;
 - **Producer, Brand Owners, Importers (PIBO)**
 - **Producer Responsibility Organisations**
 - **Regulators**

9.12 Platform ensuring traceability of waste

A robust mechanism need to be developed through which the entire waste value chain shall function and the traceability of the waste can be ensured. The reliability of the entire EPR framework depend upon the mechanism through the waste traceability can be ensured so that investor invest in the mechanism without any hesitation. There is a high probability of generation

of fake bills and recycling certificates for generating plastic credits which is a bankable note in the entire EPR system.

9.13 Waste Traceability

- The PRO is responsible to ensure that the material flows from the waste collectors to the sorter-balers, recyclers and end of life processors.
- The platform shall verify the output through an encrypted block chain technology/QR codes ensuring traceability.
- Only safe disposal certificate issued by PRO will be visible to registered users of the Digital Platform. All other information is confidential.
- The respective SPCB / CPCB certified PRO's shall generate a Safe Disposal Certificate. These certificates shall be the evidence that the producers have offset their responsibility.
- The Regulator shall be enabled to monitor if the producers have fulfilled their responsibility and can take action against such producers who fail to comply with their obligation.
- Waste traceability is important to ensure no duplication and actual work at ground

TRACEABILITY & ACCOUNTABILITY

	 FORM CREDITS	 EOL	 DRIVER 1	 SORTERS & BAILERS	 DRIVER 2	 WASTE BANK	 COLLECTORS
GST	☒	☒	VEHICLE No. LICENSE No.	☒	VEHICLE No. LICENSE No.	PAN/ AADHAAR No.	AADHAAR No. MOBILE No.
GEOLOCATION	☒	☒	ROUTETRACKING	☒	ROUTETRACKING	☒	☒
WEIGHT	☒	☒	☒	☒	☒	☒	
TYPE-CODE	☒	☒	☒	☒	☒	☒	
TRANSACTION	☒	☒	☒	☒	☒	☒	QR CODE TO INITIATE TRANSACTION
DATE/TIME	☒	☒	☒	☒	☒	☒	
	ACCEPT OTP	ACCEPT/GENERATE OTP	ACCEPT/GENERATE OTP	ACCEPT/GENERATE OTP	ACCEPT/GENERATE OTP	ACCEPT/GENERATE OTP	

10.0 Guiding principles for the uniform framework for EPR

- The Uniform EPR framework is brand and geography neutral.
- Producer, importer, brand owner is free to adopt any or all the EPR models at the same time (except fee based model)
- EPR scheme shall be uniform across India as any anomaly between states will complicate its implementation.
- A single national registry for registration of all stakeholders like producers, importers, brandowners, recyclers, PROs etc with allocation methods to meet individual state data requirements. Development of an end to end EPR digital transaction platform, which has all producers (FMCG, Brand Owners, Plastic Manufacturers, Importers, Super Stockists, Distributors and retail chains) and Plastic Recovery Organisations (PRO) (waste collectors, sorters & bailers, Recyclers) empaneled onto the platform.
- The ownership of portals and digital exchange should rest with the Government like GST to ensure protection and confidentiality of members' data.
- Spends incurred on awareness campaigns and capacity building are not considered towards compliance of EPR obligation(except fee based model where Government use the funds for the purpose). This can be spent under CSR budget.
- The program should motivate keeping waste plastics in circulation in the economy at the highest value and for as long as possible in accordance with the waste management hierarchy: Reduce> Reuse > Recycle > Recover > Dispose
- The program shall promote the inclusion of waste pickers in a manner which improves their working conditions and incomes.
- The program design shall minimize trading barriers within India and lower producer compliance costs to support an effective and efficient national market.
- The EPR obligation for MLP shall be higher than the normal recyclable plastic. The producer, importer, brand owner shall have to pay higher cost for EPR of MLP.
- The EPR model as outlined promotes the increased circularity of plastics through incentivizing source separation recycling programs. This includes, directly and indirectly supporting improvements in the working conditions and incomes of informal recyclers.
- Consistent with the Rules, the program will also allow and provide support for the management of plastics through a tiered system under plastic credit model:
 - mechanical and hybrid recycling systems (preferred option as it's holding the material at its highest value)
 - alternative uses such as road construction and building materials
 - the recovery of energy from low grade plastics through cement kilns, energy from waste plants etc.
 - development of innovative technologies uniquely suited to the India market
- The purpose of issuing evidence notes in the beginning stages of the program will be to certify the types and weights of obligated plastics managed through each contracted entity under the program. Over time, this may also provide the basis for the evolution of a “plastic recycling credit note” system to promote potential efficiencies, once the overall program has matured and the viability and integrity of the trading system can be assured.

- Public-private partnerships to drive sustainable waste collection models: Public-private partnerships involving industries, civil society Organisations and local government bodies can create sustainable MSWM/PWM models wherein each stakeholder benefits from the participation of the other. Any proposed policy framework should encourage emergence of such innovative and cost effective models wherein:
- ULBs/Municipal Corporations bear the primary responsibility for door to door collection of segregated waste as enshrined in the SWM Rules, 2016
- Private sector is tapped for leveraging specialized skills and inputs like piloting innovative business models, introducing new technology, developing market linkages etc., and
- Recycling targets should cover all post-consumer packaging waste (including household waste). Since this is a Uniform EPR Framework, there should be an overall National EPR Target covering all packaging formats. Furthermore, within the National Target, to ensure the success and the efficacy of implementation, the framework may also set individual recycling targets for each packaging format such as (but not limited to) PET, MLP, Paper-based Cartons, HDPE, and LDPE – provided these targets are realistic, achievable, and established based on industry data where the producers can self-report progress made against the targets. Monitoring and Reporting Requirements
- The Packaging Recovery Organization and/or Producer Responsibility Organization is/are required to submit an EPR plan to the state PCB/ULB (or state PCBs or PCBs if they are proposing to operate in more than one state). Once approved, the Packaging Recovery Organization and/or Producer Responsibility Organization is/are “authorized” to discharge the EPR responsibility of their Brand owners or users of packaging material and importer members.
- All authorized Packaging Recovery Organizations and/or Producer Responsibility Organizations must submit to the national and state level PCBs their annual reports (third-party audited) and make public which Brand owners or users of packaging material and importers have signed up.
- The national and state level PCBs must then check against a national registrar of companies in India and make sure everyone is part of either a Packaging Recovery Organization and/or a Producer Responsibility Organization.
- The guiding principles in the proposed EPR framework aim to achieve increased collection and recycling rates while creating a roadmap for cost-efficiency, value chain optimization, and a transparent and well-functioning waste management ecosystem. If implemented well, EPR can be a strong guiding path towards transitioning to a circular economy.
- The Manufacturers and PIBOs will procure a digital certificate from the PRO, comprising of information about procurement all forms of plastics through their waste management agencies engaged with a chain of collectors, bailers / sorters and recyclers.
- The platform solution will transact through an open ledger or blockchain technology to have transparency and will be encrypted to avoid any tampering.
- The steady flow of material and purchase of eco-certificate will enable PRO to invite investments, create jobs and apply efficient technology to reduce overall costs.

- Set up a methodology to monitor the effectiveness of the plastic waste recovery system. Progress monitoring will be done through some key numbers.
- PIBOs after registering with the Portals on their targets will select and make agreements with PROs. The PROs on their own or through the waste management agencies (WMAs) will adopt a systems approach for segregation, collection, recovery and recycling of all plastics.
- The WMAs will do the required baselines, enter into partnerships with ULBs, define the decentralized dry waste collection/sorting centres (DWCCs), link the collection through the using current practices of Waste Pickers, Kabadi Shops (small Aggregators) etc. The materials using transportation will then be shifted to the Material Recovery Facility (MRFs), where secondary segregation and value addition will be done using a set of machineries
- The value addition to all plastics, particularly the thin and multi-layered plastics at the MRF will help to determine and fetch a better price from Recyclers and whereby give a better price to the aggregators and waste pickers by the waste management agencies (WMAs). This model will help the waste management agencies to establish a business model approach,
- The MRF includes a low cost, concrete platform, shed and the necessary rooms and toilets. This needs to be available/created for the management and the operations at the MRF called as Swachhta Kendra by the city Local Bodies, or by the Manufacturers and PBOs. Proper 3-phase electricity connection and water supply facility provided.
- WMAs may set up systems approach of segregation and collection using current waste pickers, “Kabadi Shops” and “Baling machines” to get the material collected and baled for shipment.
- Existing waste collection infrastructure will be used. Incentivize the current channel with the value for the non-value plastics to ensure collection. They will be encouraged through the use of waste management agencies (WMAs) by the PROs;
- PROs, registered themselves or through their WMAs collect the non-value waste.
- Municipal bodies can also register as PRO or waste collector and will operate on similar basis. This can also help them in generating additional revenue to improve infrastructure.
- As the collection will improve industry will invest in End of Life (EOL) applications.
- EOL infrastructure to ensure adequate capacity is available for safe disposal at nearby location. Operations will be monitored through digital platform. There will be specific apps at each level to monitor movement of waste. Digital cloud-based infrastructure will be created to support this.
- Penalties shall be imposed on the Producer/Importer/Brand Owner for the portion of waste he could not able to collect against the targeted collection. This money shall be used for creating infrastructure for plastic waste management.

11.0 Cloud based digital platform

A platform may be established by the state governments, ULBs etc to involve the range of stakeholders in every city preferably cloud based digital platform as:

- **Citizens as the communities of practice** would access to apps - to request services, provide feedback, make digital payments, etc.
- **Waste collectors and waste pickers (Safai Mitras)** get registered in the system and get their ID card suitably authenticated by the concerned Local Body (ULB) and the WMAs.
- **Waste flow** is tracked at every stage, including at the material recovery centers/transit centres as well as to identify the source of waste and the concerned waste collectors/waste picker. This is enabled through the Unique QR codes, GPS based tracking and Role-based access control to ensure security and easy governance.
- **Multiple reports** will be generated for various stakeholders of the programme such as municipal bodies, local implementation partners and operations team. This would help for analytics and to plan suitable interventions. All stakeholders will be provided access for online information
- **Feedback and course improvisations**, the system is flexible and responds to meet and address any improvisations, feedback and additions.
- **EPR systems** provides fair price market access to waste pickers/collectors, through an app which shall be created to enable different waste pickers/collectors from recyclers, companies to discover products and services and transact with each other at the best price in every city.
- **Dashboards**, will be created locally at the city level and at project levels for governance. Same can be integrated into external smart city applications, or with connected ULBs through API and data interfaces.
- **Call Centre**, will be established centrally in the project for troubleshooting, feedback and any grievances or other issues and support the Implementing partner at every city. Access will be given to the related stakeholders in the city
 - i. For all end of life application corresponding state pollution control boards will issue certificates of safe disposal.
 - ii. Waste management agencies involvement ensures that waste management system that emerges operates in an environmentally sound and socially just manner

12.0 KEY STAKEHOLDERS

12.1 National PRO Advisory Committee (PROA)

- Will be the national authority to govern plastic waste management in the country. This

association be under the guidance of the MOEFCC and the Ministry of Housing and Urban Affairs (MoHUA).

- Will be a National PRO Advisory Committee to lead on implementation and ensure strategic guidance and funding required under the Rules for Manufacturers and PBOs.
- It will have members from Manufacturers and PBOs. CPCB, UDDs, MoHUA, MoEFCC and others to support plastic waste management as per PWM Rules, 2016 and 2018 and also promoting the ease of doing business for all stakeholders.
- Meets Periodically at least twice a year and is Organized by CPCB.
- PROA to have a Project Steering Committee (PSC), which shall be based out of CPCB with members to look into the changes, improvisations required to be put up to the PROA for approvals etc.
- The PSC meeting defines of how many members, and the working modalities of the PROA.
- State Pollution Boards will also be part of the PROA committee and the PSC on rotation basis
- Will allocate EPR targets to multi-state PBOs and Manufacturers, along with the overall targets for individual
- Will allocate PRN credits against EPR targets of the Multi-state PBOs and Manufacturers.

12.2 Manufacturers and PIBOs

- Manufacturers- Includes companies engaged in the business of manufacturing of plastic in the form of resin or manufacturing finished plastic packaging material.
- PIBOs– companies using plastic packaging (primary as well as secondary packaging - including bottles, pouches, sachets, packets, jars, tubes etc. as well as industry using bubble- wraps and other such plastic material for wrapping).
- Report details of plastic introduced into the market (type of plastic /quantity of plastic on a national basis to be uploaded in to the Portal)
- Meeting individually or collectively through the PROs/WMAs, recycling targets set by state, Union territories & central regulatory bodies
- Submit annual reports to CPCB/SPCBs as required
- Shall contribute to the EPR funds- as the case may be. The contribution shall be commensurate with the use of plastics in the country (for multi-state operators) or state, as the case may be.

12.3 Recyclers

- Includes collection agencies, cement co-processors, Waste to Energy Plants, Road Construction mixers and other such recyclers/ recoverees of plastic as Condensed Boards

manufacturers.

- Mandatory registration with the CPCB/ SPCB/ SPCCS as the case may be.
- To approach the PROs with an efficient plan of recycling / recovering plastic and get funds from the EPR Corpus funds according to waste management scheme proposed.
- Will drive efficiencies in the waste management initiatives.
- Involve and uplift existing marginalized communities, currently involved in the waste management process (rag-pickers, etc.).

12.4 Waste Management Agencies

- NGOs, CBOs & Waste picker associations, individually are responsible for meeting the collection, segregation, recovery and recycling; meeting targets for the PRO and Manufacturers and Producers.
- Establishing support from LBs for the allocation of space for creating Decentralized dry waste collection centres and Material Recovery Centre (MRF), with defined plant & machinery, infrastructure for collecting, secondary segregation and value addition sufficient volumes of waste using cost-effective business model arrangements.
- Engage Waste Pickers (WPs) and create the opportunity for them to participate in the formalized waste management systems having:
 - o Adequate environmental, health and safe working conditions;
 - o Occupational recognition, respect and dignity;
 - o Appropriate and fair business models;
 - o Auditing waste management operations; register MRF- SPCBs, letter of consent;
 - o Promotes communication, education, Inclusion initiatives for Waste workers and other activities involving integration of Informal sector into the Formal sector.

12.5 Local Bodies

- LBs retain the accountability for contracting of waste collection services/LBs doing it in promoting source segregation by establishing segregated waste collection and deploy vehicles adapted for segregated collection.
- LBs accountable for creating delivery of waste to the Dry Waste Collection Centres (DWCCs)/ MRF; from where the PROs partner Waste Management Agencies are active:
 - o LBs sign agreements with PROs/WMAs which defines of both ULBs and the PROs/WMAs roles and responsibilities for implementation of the projects in their municipalities.
 - o LBs allow PROs/WMAs to install facilities MRF (Material Recovery Facility) for the collection and value addition of plastic waste.
 - o LBs promote and support local awareness campaigns, other required contacts, links to the bulk generators on source segregation, collection.

- LBs support PRO/WMA in maximizing waste collection and achieve economies of scale as well as reduce landfills.

12.6 CPCB

- Set up institutional mechanism for management of EPR framework and its implementation.
- Facilitates the startup of the PRO Advisory Committee (PROAC) and holding the Project Steering and the PRO Advisory Meetings.
- Ensures that all Manufacturers and PBOs and their partner PROs upload data in the portal.
- Devise penalties to non-complying by Manufacturers and PBOs
- CPCB to assign phased EPR targets as defined earlier for Manufacturers and PBOs.

12.7 SPCBs/PCB-UTs

- States and UT PCBs shall participate in the Meetings of PROA on rotational basis in sync with the CPCB Guidelines
- States shall implement the National EPR guidelines for Manufacturers and PBOs that are registered with them at the state/UT level and ensure governance as explained in the national/state framework

12.8 Communication for Awareness

- Awareness drives for waste segregation under EPR must be carried out by SPCBs under model 1 and PROs under model 2.
- There must be further effort put into the formalization of the unorganized sector of waste pickers. All waste collection model, whatever being selected by the Producer, importer, brand owner must incorporate metrics for their welfare and human capital valuation.
- Specific Communication & training activities which may be undertaken for raising awareness on waste management along with the ULB's and influence change in behavior

13.0 Monitoring Mechanism

The monitoring of the entire mechanism of the EPR shall be the responsibility of CPCB. A six monthly report shall be generated by CPCB and shall be submitted to the Ministry.

Comments may be sent at ad.raju@nic.in, gupta.dharmendra@gov.in on or before 31st July, 2020
