

Action Plan for Phasing Out Single Use Plastic by 2022

1.0 Introduction

A study was conducted by CPCB on “Assessment and Quantification of Plastic Waste in 60 cities”, the total quantum of the plastic waste generated in the country is estimated to be 25940 tonnes per day (TPD) [9.47 million tones per year (MTA)].

Out of total plastics Waste, thermoplastics content is about 94% (RECYCLABLE) and rest 06% belong to family of others including thermosetplastics (Non-Recyclable). Out of the total, the majority of the plastics waste obtained is HDPE/LPDE materials which is 66% of plastic wastes like plastic bags, food containers, woven sacks, bottles, plastics toys, milk pouches, shopping bags etc. The households are the biggest source of plastics waste.

It is estimated that per capita plastic consumption in India is 11kg¹ out of which 60% of the plastic produced is recycled¹. It is estimated that 70% is recycled at registered facilities, 20% by unorganized sector, 10% at home. Further, 70% of plastics packaging products are converted into plastic waste¹.

India consumes 16.5 million tonnes annually, of this 43% is SUP, accordingly i.e.7.09 million tonnes.² The estimated size of plastic processing value is approx. Rs. 1 lakh crore³. There are more than 30,000⁴ processing units in the country. And technical manpower engaged in recycling business are 11000 employees⁴. The growth rate of the plastic industry is 10-11%⁴. Current Industry Size is Rs. 100,000 Cr with 13.4 MMTPA growing @ 10.5% (CAGR) to reach 22 MMTPA by 2020⁴. There are 50,000 active processors and 7500 Recyclers⁵.

2.0 Central Regulation

The Ministry notified Plastic Waste Management Rules, 2016. The Rules prohibit the use of plastic bags, sheets or the like with thickness less than 50 microns. Also sachets using plastic material shall not be used for storing, packing

¹ Based on a report by Ministry of Housing and Urban Affairs

² Based on PlastIndia Foundation report, 2018

³ FICCI report

⁴ AIPMA report

or selling gutkha, tobacco and pan masala. These are the only prohibitory clause in the PWM Rules, 2016.

3.0 Initiatives taken by the Government

Since the inception of Swacchh Bharat Abhiyan and comprehensively revising all the waste management rules, the Ministry of Housing and Urban Affairs has initiated the activities for implementation of Solid Waste Management projects in full swing. The individual state government also become active in many states to implement SWM in their respective states through ULBs. However, the state of affair of the waste management in the country has not improved as envisaged while planning these programmes, especially the Plastic Waste Management.

4.0 Announcement to eliminate Single-Use Plastics

During the World Environment Day 2018, Hon'ble Prime Minister's has made an announcement to eliminate single-use plastics by 2022, which will be uniformly applicable to all states. In the United Nations General Assembly, he highlighted the efforts made by Government of India in carrying out campaign in massive scale to make India Single Use Plastic free.

5.0 Swachhta hi Seva on Single-Use Plastic (SUPs), i.e. 14 September to 2 October 2019.

Under 'Swachhta hi Seva' on Single-Use Plastic, Hon'ble Prime Minister insisted that the common public of the country should come together in masses on 2nd October, 2019 and collect the Single Use Plastic from the houses, streets etc and the Urban Local Bodies, Gram Panchayats etc to make arrangements for deposit this plastic at a designated location. He further insisted the start-ups, technical bodies and corporates to come forward with their plans to recycle the collected plastic waste. The eventual goal is that plastic waste is not dumped on land or water but recycled.

6.0 State Regulations

Apart from the regulations at the Central level, many State Governments through their own Notifications has imposed partial or full ban on use of plastic carry bags/single use plastic in their states.

23* (of total 28) No. of States and 8 (of total 9) No. of UTs have issued notifications/ orders introducing regulations pertaining to complete ban on plastic carry bags and/or other single-use plastic items. In addition, some States/UTs have introduced partial bans on carry bags or single-use items supplementing Plastic Waste Management Rules (PWMR), 2016 in some ways.

S. No	Item	Category	States	Percentage	UTs	Percentage
1	Carry Bags	Complete Ban	18/23*	78%	8/9	88%
		Partial Ban	5/23*	22%	0	-
			23/23*	100%	8/9	
2	Cutlery	Ban	8/23	35%	1/9	11%
3	SUP	Not Banned	5/28	18%	1/9	11%

Details of state wise position is at **Annexure-A**.

7.0 Steps taken by the Ministry

Several representations were received from IndiNON- (Indian Nonwoven Manufacturers Association), INDA (Association of the Nonwoven Fabrics Industry), ATTMAP (Association of Technical Textiles Manufacturers and Processors), Non-Woven Textile Bag Makers Welfare Association, AIPMA (All India Plastics Manufacturers Association), Polyester Film Industries Association, Food packaging Technology Department etc. Hon'ble MEFCC took briefs of the subject matter and discussed the matter with the industrial bodies.

Meetings were convened by Secretary, MoEFCC to discuss the issue of SUP with the industrial bodies and other stakeholders.

Accordingly, this Action Plan is prepared by the Ministry to come up with a solution to the problem of Single Use Plastic in the country.

Earlier, the Ministry had prepared "Standard Guidelines on Single Use Plastic" with suggested different set of actions for State/UT Govt. to minimize the usage of single use plastics. These Guidelines were issued to the Chief Secretaries and the Principal Secretaries of all States/UTs for wide implementation in respective offices and States.

During the General Election 2019, all Chief Electoral officers and Chief Secretaries of States were requested about discouraging the use of one-time and short-life PVC/SUP products in campaigning and its ill impacts. Sustainable practices and alternate options to SUPs were advised.

The Ministry has also written letters to the offices coming under its administrative jurisdiction, Regional Offices of the Ministry, offices of Central Government and its departments, major PSUs, corporates, institutes etc. to prohibit single-use plastic products including water bottles, take away coffee cups, lunch wrapped in disposable plastic packaging, plastic bags, disposable food containers, plates and containers made of polystyrene foam, plastic straws etc. from their offices. Awareness creation exercise were undertaken in schools through Eco-Clubs operating in different States about ill effects of “single use plastic”.

The Ministry is also collaborating with several countries such as Norway, Germany etc. through bilateral cooperation to reduce plastic pollution and marine litter.

8.0 Meetings conducted by CPCB

An interaction cum briefing meeting was held at CPCB, Delhi on 05/09/2019. The meeting was chaired by chairman CPCB on “Road map for phasing out single use plastic (SUPs)”. Various stakeholders including representative of All India Plastic Manufacturers Association, UNDP, waste management agencies, brand-owners, producers, co-processors, E&Y etc participated in the meeting. The objective of the Brain Storming Session was to brief the participants of the various initiatives being taken up by the Government to phase out single use plastic and seek the inputs on the matter.

The highlight of discussion includes the following:

1. A number of plastic products are being utilized for convenience although their use may not be necessary. Therefore, products may be analyzed in terms of their need viz convenience. Based in such analysis, products which are being used essentially for convenience may be considered for phasing out.
2. Single use plastic products which are to be phased out should be clearly defined.
3. Understanding and application of law should be uniform across the country. Products which are easy to collect and which can be reused should be

produced in large number and production of such products should be encouraged through appropriate regulation.

4. Production of products which are not easy to collect and which cannot be reused should be discouraged through appropriate regulation.
5. Infrastructure for recycling plastic should be expanded to handle volumes which are likely to be generated as a result of stricter enforcement.
6. Education Apps should be developed for reaching out public.
7. Urban Local bodies have a major role along with informal sector in setting up infrastructure for collection and recycling. Therefore, producers should recognise their role and ensure synergy among all stakeholders.
8. Enforcement of regulation has been a challenge. Therefore, innovative solutions for better enforcement should be explored.
9. In order to sustain drive against single use plastic, public awareness would be a key factor and for which appropriate mechanism should be put in place.

9.0 Study Conducted by Department of Chemicals and Petrochemicals

Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers recently formulated a Committee and submitted a draft report on Single Use Plastic which has suggested list of items based on the categorization of plastic items depending on their utility and impact on environment.

The committee has categorised 'single use plastic' based on certain criteria, following a logical process. This categorization has resulted in a group of single use plastic products being identified as 'environmentally problematic'. The committee notes that this group of problematic products which are independently identified, broadly coincides with the products that have been banned by various states, prohibited under the PWM Rules, and are the cause of concern nationally and internationally.

The Committee further mentioned that the present system of collection, segregation and disposal of plastic waste, by recycling or by sale for co-processing or other methods, is almost fully dependent on informal waste pickers (colloquially called rag pickers) and the recycling industry. Save a few large recycling units in the organized sector, mainly for PET bottles, the recycling industry is unorganized. The recycling industry is largely non-compliant with health, safety and environmental norms. Though the recycling industry is key to

managing plastic waste, it has not received support from any part of Government. The recycling rate (~60%), almost entirely mechanical recycling, is quite high in the country. 'Alternate use' and 'energy recovery' processes have not yet matured in India.

10.0 Situation Analysis

A preliminary analysis of the state level action on plastic in particular plastic carry bags and single-use plastic items suggests that implementation challenges arise whenever such bans have been introduced. However, some states particularly Sikkim, Jharkhand and Himachal Pradesh have reportedly achieved considerable success. Maharashtra/Tamil Nadu/Uttar Pradesh have introduced measures recently and their efficacy is yet to be established.

One key argument for the lack of successful implementation of state bans may be framed around the lack of a similar prohibition at central level. As majority of the plastic carry bags manufacturing units are concentrated in a few states and that those states do not have a complete ban carry bags, plastic products get traded across state boundaries. It is evident that control of such trade is challenging.

11.0 Way Forward - 6Rs principal for Prevention of Plastic Pollution in the country

The overall strategy for Prevention of "Plastic Pollution" can comprise of several stages based on 6R's Principle (Reduce, Reuse, Recycle, Recover, Redesign and Remanufacture.). Following are the major stages for the implementation of the 6Rs Principle

- a. **Ban of select SUPs** under "***Reduce***" strategy. The items to be banned may be prima-facie discussed with the stakeholders at various level. Based on the inputs received from the stakeholders, final decision can be taken.
- b. **EPR mechanism**, based on the "***Recycle***" and "***Reuse***" strategy, to cover plastic products/packages which can't be banned for the time being till new innovation or effective and economics alternatives are not found. The EPR to boost the collection, channelization and recycling of plastic waste.
- c. **Development of adequate recycling capacity** across the country so that all plastic waste generated is recycled in environmentally sound manner in line with the principle of "Circular Economy". This will help in "***Recover***" the valuable plastic from the waste stream.

- d. **Design for Environment (DfE)** to be encouraged among the packaging industries/FMCGs so that the packaging material is “***Redesigned***” for multiple use or for alternate use.
- e. **Remanufacturing** in development of Mutli-use plastic (MUP) products or alternative packaging so that either plastics are not used at all or only recycled plastic are used, where ever it is not possible to avoid plastic completely. This approach will be based on “***Remanufacturing*** ” strategy of 6R’s

12.0 Proposed plan for dealing with different category of Plastics

Single Use Plastic Items: Considering the high environmental costs associated with management of single-use plastics, particularly the adverse effect on marine environment, and the need for a definitive response supplementing actions undertaken by various States/UTs to combat single-use plastic pollution, it is proposed that a prohibition on the manufacture, use, sale, import and handling of single-use plastic products may be introduced at the Central level. However, a comprehensive list of all Single use plastic items, with whatever, definition we adopt, would be very large and could encompass a major portion of all economic activities in the country. It may not be feasible to impose a comprehensive ban on all SUPs. Therefore, it will be prudent to identify list of SUP items which has the least ‘Utility’ and has the ‘Most Environmental Impact’, to prohibit. This could be introduced by 2022.

PET or PETE bottles: With reference to PET or PETE bottles, it is proposed that no action may be required at this stage, in particular, creating a deposit refund system or buyback mechanism as a large quantum of PET or PETE bottles reach the formal or informal recycling industry already.

Multi-layered Packaging: With reference to Multi-layered Packaging used by FMCGs and other producers/importers/brand owners, it is observed that replacement technologies are still not available to the manufacturers’ of products which use such packaging. Hence it may not be suitable to phase-out or prohibit the use of MLPs at this stage. The Producers/Importers and Brand Owners has to comply with the provisions of EPR under Plastic Waste Management Rules, 2016.

Plastic packaging (other than MLP): The industries /users who are using plastic packaging, other than MLP, like e-commerce companies, local brands etc, a set of rules can be made where the size of packaging can be regulated. They may adopt alternate material for packaging, like e-commerce industry can opt for

paper or cardboard packaging or can use compostable plastic. They may also comply with EPR mechanism.

Thermacol packaging has wide industrial and packaging applications and use. Banning of thermacol packaging is not feasible at this stage. The provision of EPR which is existing for plastic packaging in the PWM Rules, 2016 can be obligated to the users of thermacol also. Therefore, either a directive can be issued to reduce thermacol wherever possible or EPR can be obligated on them.

Compostable plastic: For all types of packaging across the packaging industry, a directive can be issued to use compostable plastic in place of petro-based plastic.

Based on the above description, a table is prepared and presented below. Under each category of plastics, certain items are shortlisted which has the least 'Utility' and has the 'Most Environmental Impact'. The table illustrates an action plan in which the category of the plastic is shortlisted for which action needs to be initiated. A time line is also prescribed for the applicability of the proposed action.

13.0 Alternate to SUP

In case of **carry bags**, there are alternatives available for the plastic carry bags like the jute bags, cloth bags, paper bags. And it is successfully being used in some of the states/cities where polyethene bags are banned like Indore, Mumbai, Pune, Mysore etc.

Polyethene is the basic composition used for making plastic carry bags. Phasing out of plastic carry bags shall definitely have an impact commercially, however, there is a wide variety of applications in which polyethene is used. Similarly, the **non-woven carry bags** are made up of polypropylene. The carry bag is only one of the application of polypropylene. There are huge variety of items made of non-woven material available in the market like surgical gowns, protective clothing, disinfection cloth, masks, diapers, household wipes, wet wipes, magic towels, soft towels, beauty products, sanitary napkins, health care mats, disposable hygiene fabrics etc. Out of these many items the Ministry is only targeting carry bags. Therefore, the impact on plastic industry by phasing out non-woven carry bag is very less.

Further, the **single use cutlery** items are used wide across the country in marriages, pilgrim places, parties or any occasions where there is gathering of more than 10-12 people. The plastic cups/glass are used in all commercial places where the water dispenser is installed. All tea stalls are using plastic cups for serving the tea. All juice corners use plastic glass and straw for serving juice etc. Apart from this, the other category is “container and container lids” which is now a days widely used by the restaurants to parcel the curries as a part of home delivery. All these single use cutlery items can be seen all across the country throughout the road sides, railway tracks and in the hills and valleys.

There are sufficient **alternatives available** for the plastic cutlery like paper plates and leaf plates, paper/earthen cups and glass, wooden spoons, paper straws, multi-layered (aluminium+paper) pouches in place of container and container lids, wooden trays, stirrers made of wood. Apart from the traditional material, the new material like bagasse based products, banana stem based products are widely available in market. Further, once the plastic products are prohibited, the new material automatically capture the market. Also the 2 years’ time provided for phasing out these items (year 2022) will provide sufficient time for the traders, sellers, users to switch to the new and alternative products.

An easy replacement is available for ear buds sticks, balloons sticks, flags, candies etc made of plastic. For the portion of plastic in the above items, wood/bamboo/paper etc is the easily available option.

Poly Vinyl Chloride (PVC), a plastic polymer, is non-biodegradable material and if it is burnt in open, releases toxic fumes like dioxins. The PVC materials which are commonly used for flex, banners and posters are hazard to health and environment. Alternatively, cloth banner, lightweight textile fabric, wrinkle resistant warp knit, natural fibre-based sandwich board, resin-infused paper, partical boards can be used.

14.0 Other Actions

- i. **Creation of awareness** among public about indiscriminate use of plastic products and use of plastics in packaging, its environmental impact and alternate available.
- ii. **Voluntary activities of NGOs, Industry and UN** organisations in plastic waste management and prevention of marine plastic pollution

- iii. **Assessment, monitoring and periodic review** of the measures taken by the Ministry and all other stakeholders in Prevention of “Plastic Pollution” and prevention of marine plastic litter.
- iv. **Innovation and R&D in development of Mutli-use plastic (MUP)** products or alternative packaging so that either plastics are not used at all or only recycled plastic are used, where ever it is not possible to avoid plastic completely. This approach will be based on “Reuse” strategy of 3 R’s/ 6 R’s
- v. **International collaborations** (bilateral and multilaterals) in Prevention of Plastic Pollution in the country and prevention of Marine Plastic Litter.
 - a. India is continuously engaged in negotiation of UN Environment Programme’s (UNEP) UN Environment Assembly (UNEA) shown its willing for leadership role for the cause of plastic and engaged in negotiation process regarding the terms of reference on comprehensive global action for prevention of plastic pollution, microplastic and marine plastic litter. In UNEA-2019, India moved a joint resolution with Norway on the Prevention of Marine Plastic Litter and Plastic Pollution, which was appreciated and adopted by UNEA.
 - b. On 5th June 2018, India was the global host for the “World Environment Day” (WED-2018) with the theme of “Beat Plastic Pollution”. *The hon’ble PM has pledged to phase out the single use plastic from India by 2022.* This was the first ever initiative by any large country to commit a substantial action on plastic pollution.
 - c. India is a party to Basel Convention on waste. Indian multi-members delegation participated in the two week long CoP-2019 negotiations in Geneva, May 2019. The Convention established a plastic partnership, adopted a resolution on future action on plastic by convention and also decided to amend the text of Basel Convention, bringing waste from free list to restricted list for International Trade requiring the PIC (Prior Informed Consent). The amendment was considered to be the second most important amendment in the 30 years history of the Basel Convention. The Plastic Contact Group on amendment and partnership was co-led by one of the members of the Indian Delegation.
 - d. The Ministry is collaborating with **Norwegian Govt** on a project for prevention of Marine Plastic litter and plastic pollution.
 - e. The ministry is collaborating with **German Govt through GIZ** on a project for prevention of Marine Plastic litter and plastic pollution

Annexure A

Notification for banning manufacture, use, sale import and handling of single use plastic products by 2022

(Based on the data available in submitted Annual reports by SPCBs/PCCs)

S. No	Name of State/UT	Complete or Partial Ban	Date of Gazette or Executive Order	Remarks
1	Andaman & Nicobar Islands	Complete ban	02.08.2010 (Gazette)	Complete ban on manufacture, store, import, distribution, transportation, recycle, sell & use of plastic carry bags.
2	Andhra Pradesh	Not Banned	Not Available	Not Banned
3	Arunachal Pradesh	Complete ban	03.07.2012 (Executive Order)	Complete ban on manufacture, store, import, transportation, sell & use of polythene/plastic carry bags
4	Assam	Complete Ban	30.04.2019 (Gazette)	Plastic carry bags, banners, buntings, cups, cling films, flex, flags, plates, sheets (used for spreading on dining tables irrespective of thickness) including the above items made of thermocol and plastic which use plastic micro beads.
5	Bihar	Complete ban	11.12.2018 (Gazette)	Complete ban on manufacture, store, import, transportation, sell & use of plastic carry bags
6	Chandigarh	Complete ban	30.07.2008 (Gazette)	Complete ban on manufacture, storage, import, sale, use transportation & disposal of plastic carry bags
7	Chhattisgarh	Complete ban	24.12.2014 (Gazette)	Complete ban on manufacture, store, import, transportation, recycle, sell & use of polythene/plastic carry bags.
8	Daman Diu & Dadra Nagar Haveli	Complete ban	24-01-2014 & 22.09.2017 (Gazette)	Forbidding the use, sale/ storage of all kinds of plastic bags
9	Delhi	Complete ban	23.10.2012 (Gazette)	Complete ban on manufacture, import, store, sell & use of plastic products (poly Propylene, non-woven fabric type carry bags), plastic film or plastic tube to pack or cover any book including magazine & invitation/greeting cards.
10	Goa	Partial ban	16.03.2015	Government imposed ban on Manufacture, stock, import, transportation, recycle, sale & use of plastic (carry bags, cups, forks, paper plates, spoons) in Chorla Ghat area Mandi Wildlife sanctuaries .
11	Gujarat	Partial ban	28.06.2011 (Gazette)	Complete ban on plastic products in Gandhi Nagar

12	Haryana	Complete ban	20.08.2013 (Gazette)	Complete ban on manufacture, stock, import, transportation, recycle, sell & use of plastic (carry bags, cups, forks, paper plates, straws, spoons & containers for the usage of foodstuffs)
13	Himachal Pradesh	Complete Ban	07-07-2009 & 13-08-2009 (Gazette)	Complete ban on use of Carry bags (irrespective of size), polythene, non-biodegradable material, disposable plastic cups, plates, and glasses
14	Jammu & Kashmir	Complete Ban	18.06.2008 (Gazette)	Complete ban on use, store & sell of plastic carry bags
15	Jharkhand	Complete Ban	17.10.2017 (Gazette)	Complete ban on manufacture, import, storage, transport, sell and usage of plastic carry bags in the whole State
16	Karnataka	Complete ban	11.03.2016 (Gazette)	State government banned the plastic banners, buntings, carry bags (plastic & compostable), cups, cling films, flex, flags, plates, spoons & sheets made of plastic or Thermocol and microbeads usage in the entire state
17	Kerala	Partial ban	22.11.2010 (Executive Order)	Complete ban on plastic carry bags in Thiruvanthapuram, Kannur and Kottayam District during the pilgrimage season.
18	Lakshadweep	Complete ban	25.01.2019 (Gazette)	Complete ban on use, store & sale of plastic carry bags of all thickness, plastic coated carry bags, plastic flags, plastic sheets/films used for wrapping, plastic sheets used as dining table covers, thermocol cups and plates, plastic coated paper cups and plates, plastic teacups, plastic tumblers, plastic teacups, water pouches/packets/PET plastic water bottles, straws,
19	Madhya Pradesh	Complete ban	24-05-2017 (Gazette)	Production, Storage, Transportation, sale & use of plastic carrybags.
20	Maharashtra	Complete Ban	23-03-2018 (Gazette) Amendment 11th April, 2018	Complete ban in the whole State for manufacture, usage, sale storage, transport, and distribution, wholesale & retail, import of the plastic & compostable bags and the disposable products manufactured from plastic & thermocol (polystyrene) - disposable dish/spoon, cups, bowl, container, fork, plates, glasses, straw, non-woven polypropylene bags, cups/pouches.
21	Manipur	Not Banned	Not Available	Not Banned
22	Meghalaya	Not Banned	Not Available	Not Banned

23	Mizoram	Not Banned	Not Available	Not Banned
24	Nagaland	Complete ban	01.01.2004 (Gazette)	Complete ban on use, store & sale of plastic carry bags
25	Odisha	Partial ban	29.09.2018 (Executive Order)	Complete ban on use and sale of plastic carry bags, thermocol (polystyrene), dish/spoon, cups, bowl, container, fork, glasses & plates in Bhubaneshwar, Berhampur, Cuttack, Puri, Rourkela & Sambalpur
26	Puducherry	Not Banned	Not Available	Not Banned
27	Punjab	Complete ban	18.02.2016 (Gazette)	Complete ban on Manufacture, stock, distribute, recycle, sale & use of plastic carry bags.
28	Rajasthan	Complete ban	01.08.2010 (Gazette)	Complete ban on use, store & sale of plastic carry bags
29	Sikkim	Complete ban	19.05.2016 (Gazette)	Complete ban on sale & use, storage of disposable items (cups, plates, spoons, containers, etc..) made from Styrofoam.
30	Tamil Nadu	Complete Ban	01.01.2019 (Gazette)	Complete ban on manufacture, sell, use, storage, Transportation and distribution of "Single-use plastics" i.e. plastic carrybags, flags, sheets using for food wrapping, straws, tea cups, tumblers, water packets & pouches
31	Telangana	Not Banned	Not Available	Not Banned
32	Tripura	Complete ban	10.03.2015 (Gazette)	Complete ban on Sell, use, storage, Transportation & import of plastic carry bags (including polypropylene, non-woven fabric type) plastic tube to pack or cover any book including magazine & invitation/greeting cards.
33	Uttar Pradesh	Complete ban	22.12.2015 (Gazette)	Sell, use, Storage, Transportation & import of plastic carry bags (including polypropylene, non-woven fabric type) plastic tube to pack or cover any book including magazine & invitation/greeting cards.
34	Uttarakhand	Complete Ban	01.01.2017 (Gazette)	Sell, use, storage & Transportation, of plastic carry bags.
35	West Bengal	Partial ban	11.01.2018 (Executive Order)	Completely banned in religious and historical places.