Proceedings

National Policy Workshop Webinar Series on "Countermeasures for Riverine and Marine Plastic Litter in India"

16 May 2020 | 14:30 – 17:00 hrs

WEBINAR 3

Activities and Best Practices to Counter Plastics Litter by Sustainable Waste Management and Circularity

WEBINAR 3

Proceeding

Activities and Best Practices to Counter Plastics Litter by Sustainable Waste Management and Circularity

16 May 2020 | 14:30 - 17:30 hrs

Moderator
Mr. SP Chandak,
Former Deputy Director, UNEP & Professor Emeritus, BIMTECH

Coordinator
Mr. Vijay Nehra,
Assistant Director, NPC

INTRODUCTION

Plastics are widely used material used in textile, rubber automobiles, FMC etc. However if they are not kept in a circular loop that not properly managed at their end of life finds it wasy to natural environement.Plastics have the potential to be better managed at end of life of products and components. To increase material circularity, leakage of plastic from the human technosphere must be reduced, and ultimately prevented. This requires right policy intervention, effective implementation of rules, good depository schemes to enable organized collection of plastic waste, appropriate product design to enable recycling, other novel treatment and disposal options, and alternatives to plastics to be provisioned as part of the scope for sustainability initiatives. Issues and challenges of linear plastics economy and exploring prospects for Circular Economy via innovative techno-economic solutions and approaches for redesigning the value chains.

WEBINAR AGENDA 3

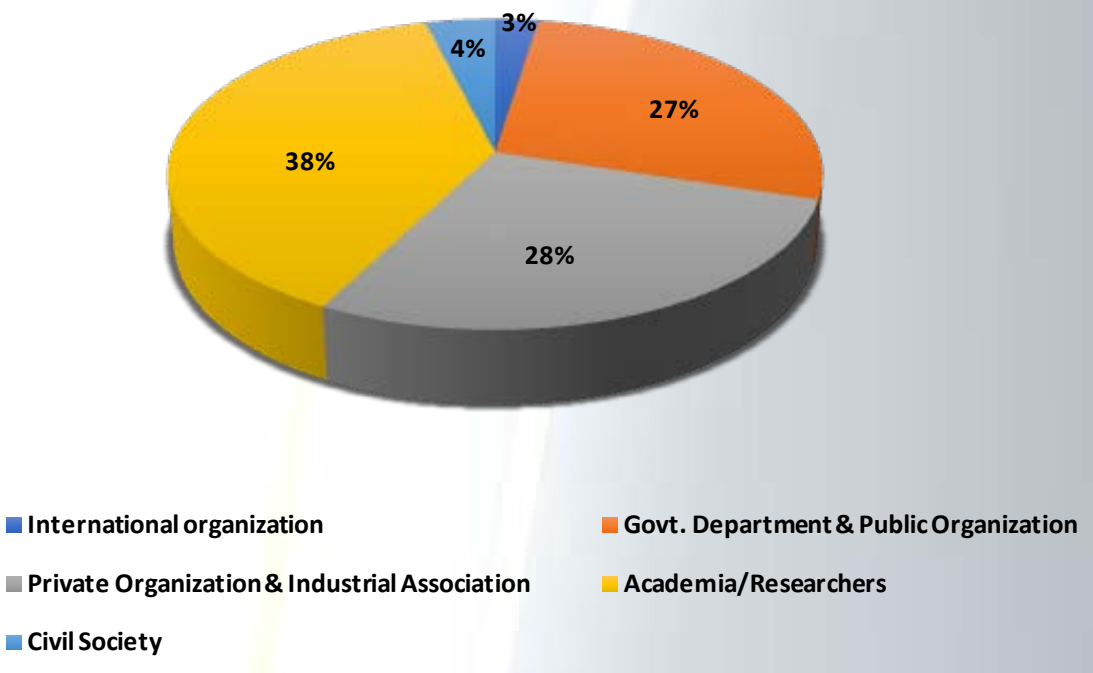
Time (hrs)	Theme/Topic	Speaker
14:30– 14:35	Introduction	Dr. Shukla Pal Maitra, Director, NPC
14:35 – 14:45	Initiatives by UNDP In Promoting Circularity in Plastic Sector	Mr. Prabhjot Sodhi Head (Circular Economy), UNDP
14:45- 14:55	Evolving EPR Framework in Plastics Management	Mr. Ashish Chaturvedi, GIZ
14:55- 15:05	Collection and Channelizing Plastic Bottle Recycling via Reverse Vending System	Mr. Pranjul Jha, Biocrux India Pvt. Ltd.
15:05- 15:15	Plastic Credit Units and Its benefits through Exchange Ecosystem to Achieve Sustainability	Mr. Kunal Sanghavi, Financial Services and Capital Market Expert
15:15– 15:25	Technical Specification for Co-processing of Plastic Waste in Cement Kiln and Constraints Faced	Mr. Varun DilipBoralkar, Head of Growth & Special Projects, Geocycle India
15:25 – 15:40	Use of Waste Plastic for Bituminous Road	Dr. Sangita, Former Head

Time (hrs)	Theme/Topic	Speaker
	Surfacing	(Flexible Pavement), CRRI & Mr. Sanket Gupta (Director-S K Polymers) Researcher Plastic waste material for road surfacing
15:40 – 15:50	Innovative Systems and Technologies to address Solid Plastic Pollution and Market Creation for Soft Plastic	Mr. Rama Commuri, Renew Oceans
15:50- 16:00	Digital EPR System	Mr. Suraj Nandkumar, Recity
16:00- 17:00	Panel Discussion: Recommendations for bringing circularity through sustainable waste management to minimize plastic waste and littering in Indian conditions Questions & Answers	Additional Panel Members : Ms. Saloni Goel, UNEP Mr. K.D. Bhardwaj, NPC Mr. Amit Jain, Director, IRG System South Asia

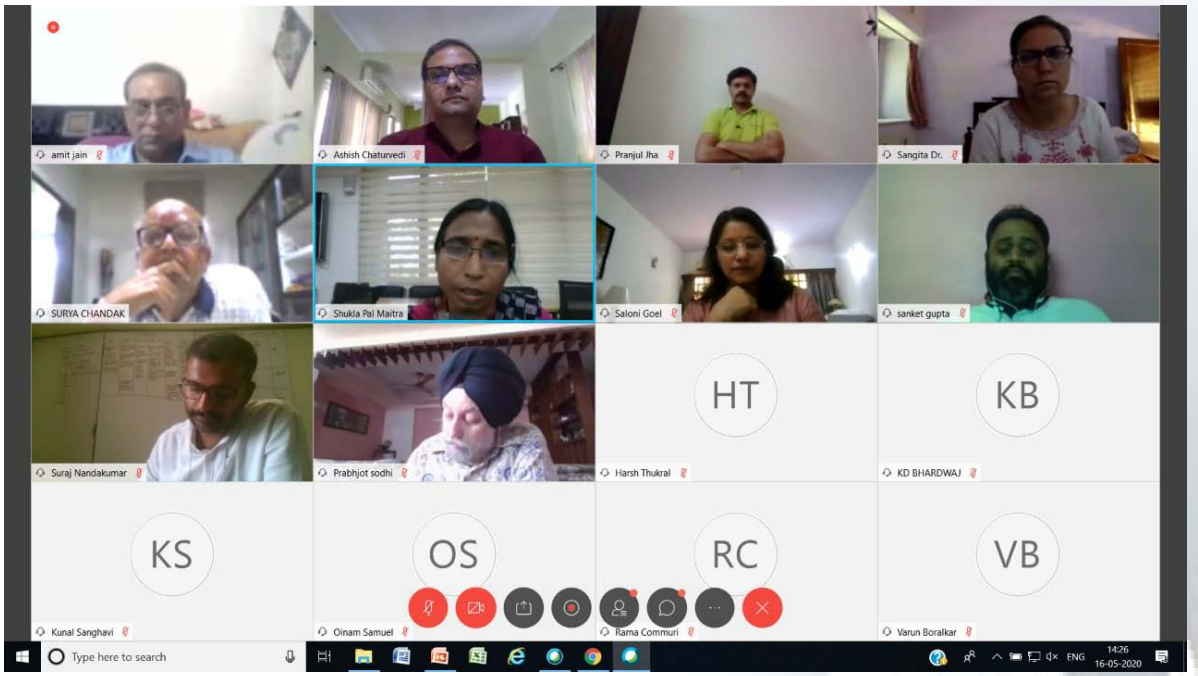
PARTICIPANT PROFILE

The webinar was attended by 700 plus participants. The participants were from across various sectors (public / private organizations, civil society, academia, and from across a range of national and multilateral institutions such as UN Organisations and the World Bank). The Webinar has been highly appreciated by participants and is attracting attention from a wide range of stakeholders. The participant profile details are depicted in **Figure 1**.

Figure 1: Participant Profile



WEBINAR PROCEEDINGS



The session was opened by the Moderator, Mr. SP Chandak, former Deputy Director, UNEP & Professor Emeritus, BIMTECH He welcomed all the resource speakers, panelists and attendees / participants on behalf of NPC and introduced Dr. Shukla Pal Maitra, Director , NPC to introduce the theme of counter measures against marine plastic litter to the participants.
Dr. Shukla briefed the participants about the identified counter measures again plastic litter. She quoted several examples and initiatives taken by various companies in India and abroad to minimize on the plastic waste generation.
She emphasized on the need of good Plastic Waste Management (PWM), design of product and innovations in management and design to combat plastic pollution.

PRESENTATION 1:

Initiatives by UNDP in promoting circularity in plastic sector

The first presentation by Prabhjot Sodhi, Head (Circular Economy), UNDP reflected on the Initiatives by UNDP in promoting circularity in plastic sector. He started with the statistics of plastic waste generation in the country and then went on to discuss the responsibilities of businesses under PWM Rules. He emphasized on creating a responsible environment with a social, institutional and economic construct for the WARRIORS – SAFAII SATHIS especially women

He talked about City Commissioners &UNDP, Private Sector Model covering Socio-technical model, Material Recovery Centres, Institutionalization of Swacchta Kendra, Knowledge management and structure of its implementation

He explained about Circular Economy through Plastic Waste Recycling Management through PRITHVI PWM Partnership and Circular Economy through PRITHVI.

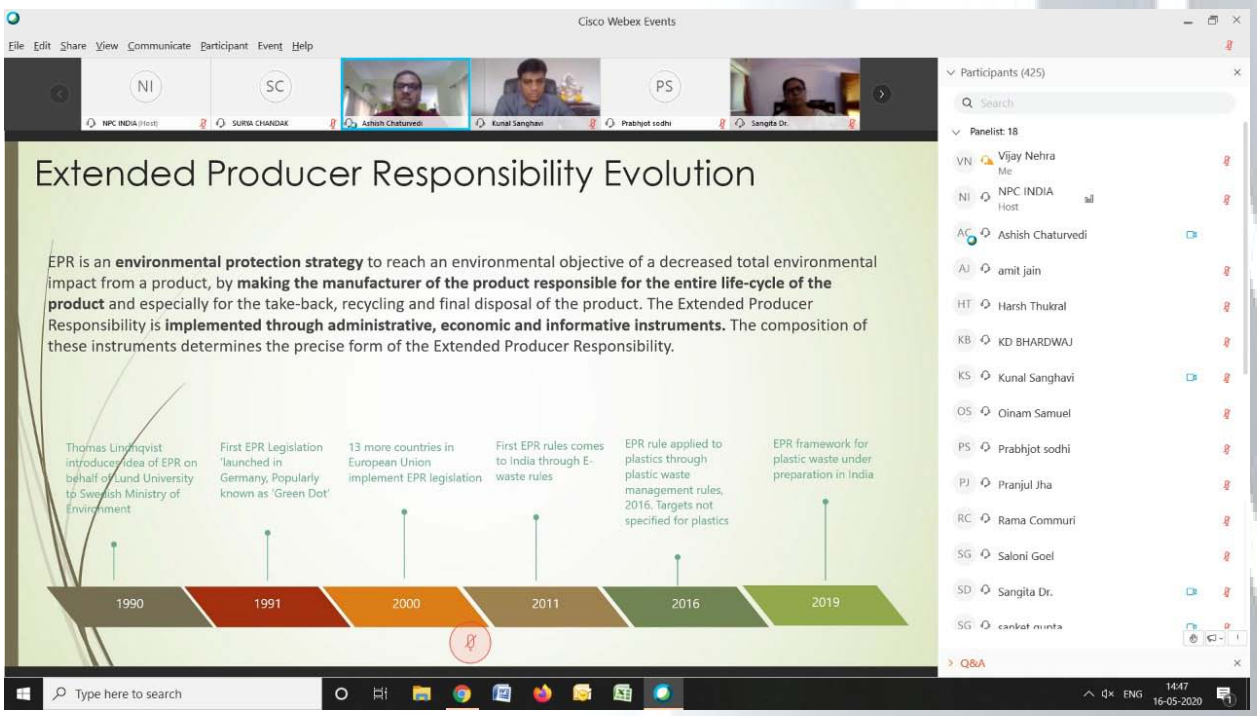
He also presented a case study of a model Swachhta Kendra (Material Recovery Facility), equipped with machineries for better efficiency, provision of all basic amenities and safe working environment of workers and logging of waste flow, data recording and traceability.

He stressed upon mainstreaming of Waste-Pickers by intervening catering to the issues faced by them in occupational as well as personal level

In the end, he suggested Implementation of Extended Producers Responsibility (EPR): With reference to PWM rules, 2016 by bringing clarity among brand owners regarding the implementation of EPR ; promotion of concepts such as buy-back mechanisms and reverse logistics and need of increasing incentives for recyclers to maintain the Circularity of Reuse, Recycle, Reduce, Regenerate

PRESENTATION 2:

Evolving EPR Framework in Plastics Managementby Mr. Ashish Chaturvedi, GIZ



The second presentation was by Mr. Ashish Chaturvedi from GIZ. He explained the chronology of EPR evolution across globe. He flagged that the Extended Producer Responsibility is implemented through administrative, economic and informative instruments.

He then discussed about several best practices worldwide for plastic waste management, a few of which were:

Austria: The initiative "PfiatdiSackerl" (Goodbye plastic bag) mandates retail sector to charge for plastic bags.

Italy :The producers are obliged to pay depending on the type of packaging put onto the market that is used to pay the Municipalities for managing waste.

United Kingdom: Tradable Packaging Waste Recovery Note (PRN) system.

South Korea: Mandated Rates of Recycling by Item and mandatory submission of Recycling Plan by PRO and Producer to K-eco.

Japan: The Container and Packaging Recycling Act mandates sorted disposal by consumers, separate collection by municipalities and recycling of the waste by manufacturers.

In the end he talked about the lessons to be learnt for India, which included:

•Set up a central packaging registry to track packaging used, waste generated, collected, recycled and landfilled (MoEFCC).

•Implement polluters pay principle by including cost of transportation and processing of packaged waste in product prices (MoEFCC and Ministry of Finance)

•Promote business models of MRFs and recycling units based on location specific studies specifying types of plastics available and demand of processed products as raw material (MoHUA and MoEFCC)

•Promote design changes in packaging. e.g. Alternative materials to plastics, shift from polymers to monomers (MoEFCC, DST for research)

•Promote market potential of recycled products (eg.Bottle to Bottle Recycling) by including standards for products in the National EPR Framework (MoEFCC)

•Strengthen value chain of plastics with special focus on strengthening role of the informal sector in collection and operation of MRFs (MoHUA, ULBs, PRIs)

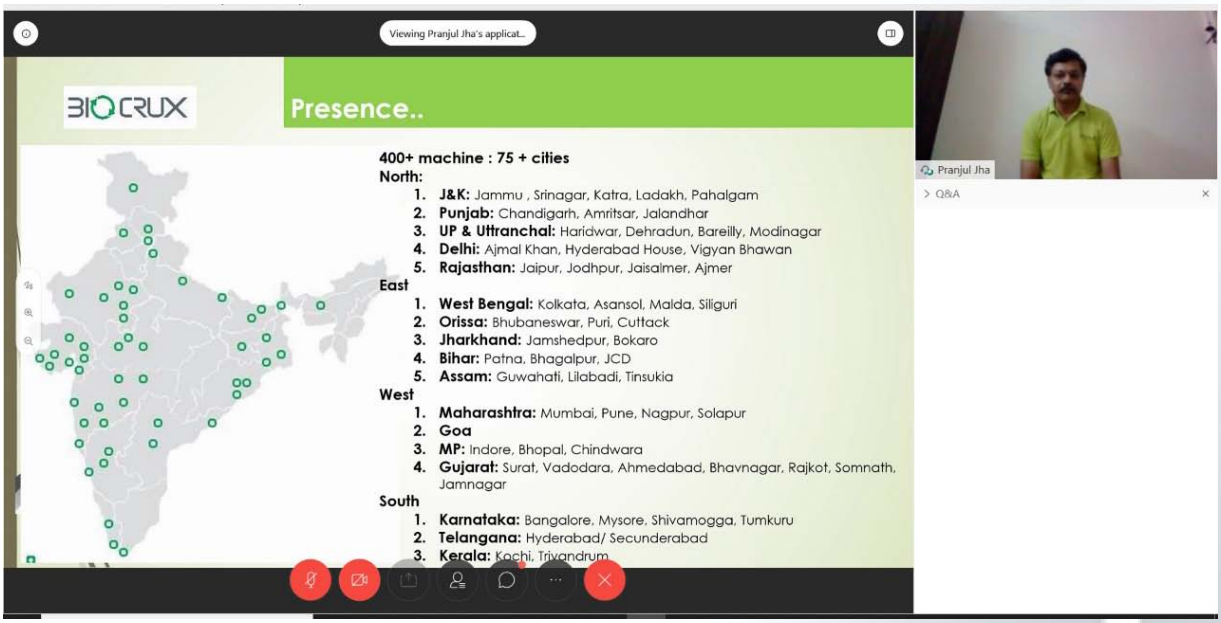
PRESENTATION 3:

Collection and Channelizing Plastic Bottle Recycling via Reverse Vending System, by Mr. Pranjul Jha, Biocrux India Pvt. Ltd

The third presentation was delivered by Mr. Pranjul Jha, Biocrux India Pvt. Ltd. He Explained Basic Challenges of Recycling across world.

He started by highlighting the use of plastics in our day to day life and hence how it substantially contributes to the waste generation. He further spoke about the basic Challenges of Recycling across world such as segregation of waste , etc.

He detailed about sustainable PET Recycling Solution and 360 degree Methodology, where PET flakes is converted into resins to make paints, dustbin, toilet seat etc. PET is also recycles to apparels, caps and bags.



He elaborated on the Biocrux – RVMD (Reverse Vending Machine Digital), its features and annual impact

He presented the case study for RVMD (Vaishno Devi Shrine Board) , where more than 80000 bottles were collected and recycled.

He concluded his talk by sharing the challenges faced by RVM industry, some of which were:

- Support from Government
- Policy interventions and execution e.g EPR detailing, Mandate to use recycled material.
- A deposit system like other countries
- Financial: Currently dependence on CSR
- Installation but slow ramp up.
- One machine to take every thing. (Despite MSW 2016 mandate of segregation)
- Habit of waste disposal – Indiscriminate littering.

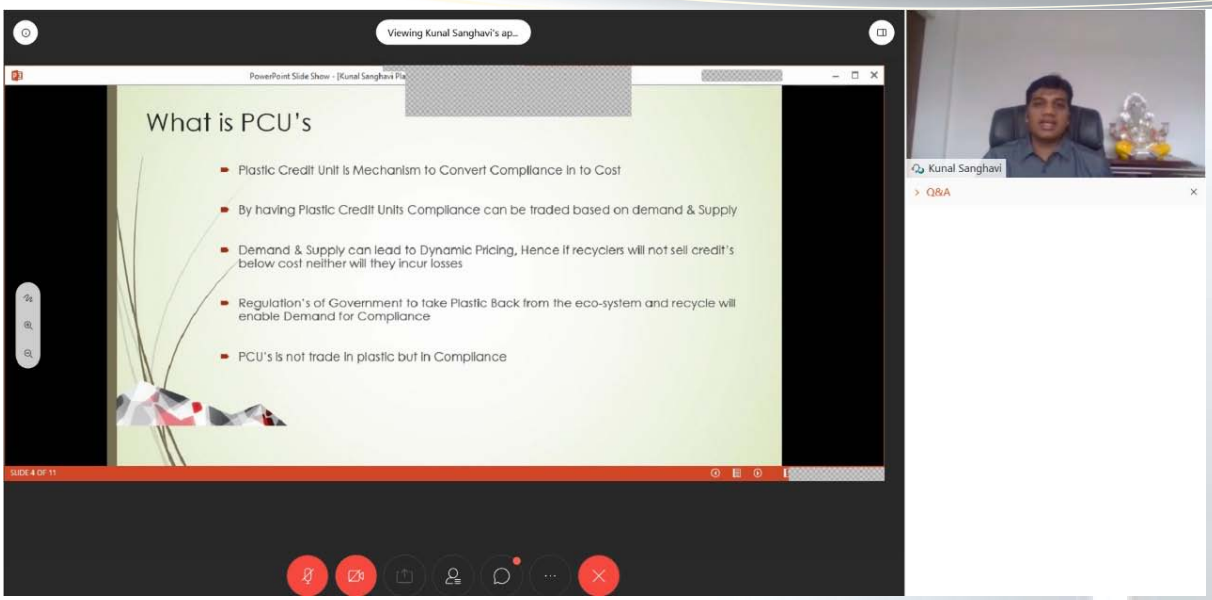
PRESENTATION 4:

Plastic Credit Units and Its benefits through Exchange Ecosystem to Achieve Sustainabilityby Mr. Kunal Sanghavi, Financial Services and Capital Market Expert

The fourth presentation was taken byMr. Kunal Sanghavi, Financial Services and Capital Market Expert. He explained PCU (plastic credit unit), its role in PW management based on gap in Demand & Supply compliance trading.

He elaborated on the Process for Issuance of PCU's. He discussed about key findings showing cost wise difficulties in managing PW from producer to recycler in value chain while very high awareness & Sensitivity locally & globally to avoid plastic & need to become plastic neutral.

He suggested that there is need for infrastructure, policy level support to make PCU compliance tradeable.

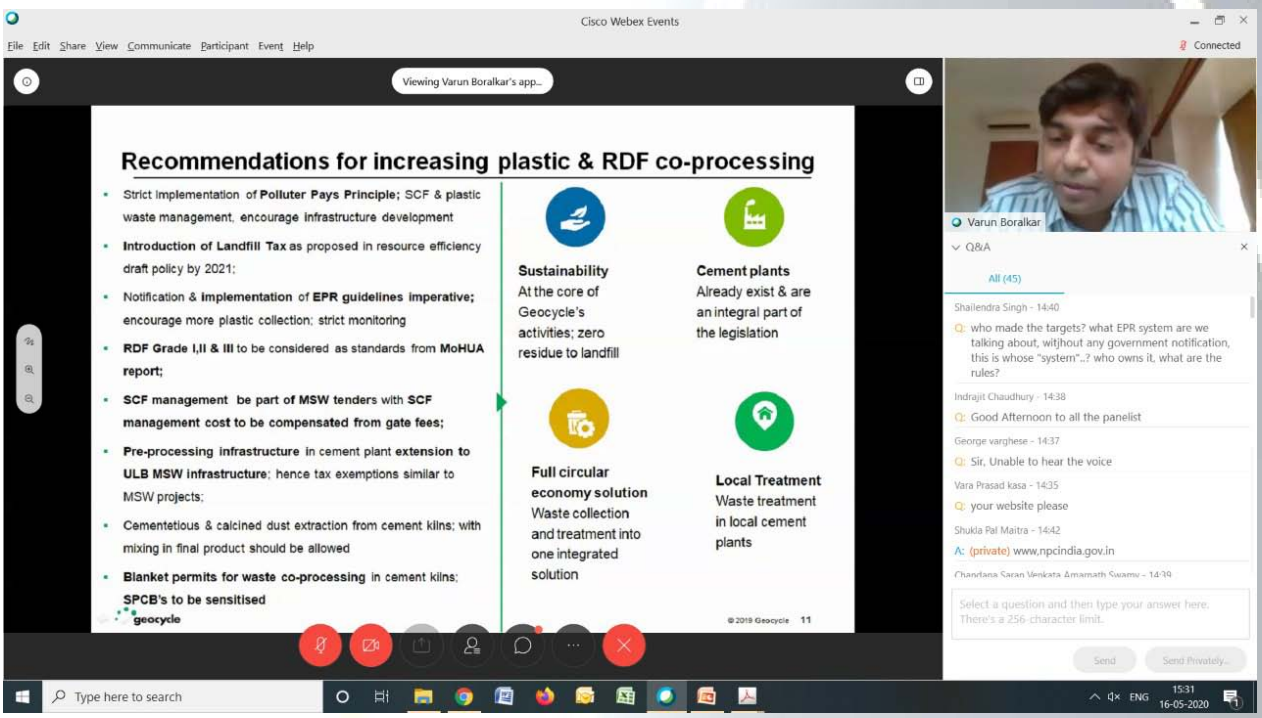


His recommendations included the following:

- Policy makers to allow creation and trade of PCU
- Govt. can themselves develop or participate with allowing entities in enabling the platform for trade of credit units
- Tax and other incentives for corporates, recyclers and individuals complying with the norms.

PRESENTATION 5:

Co-processing: Bringing Circularity to waste managementby Mr. Varun Dilip Boralkar,Head of Growth & Special Projects, Geocycle India



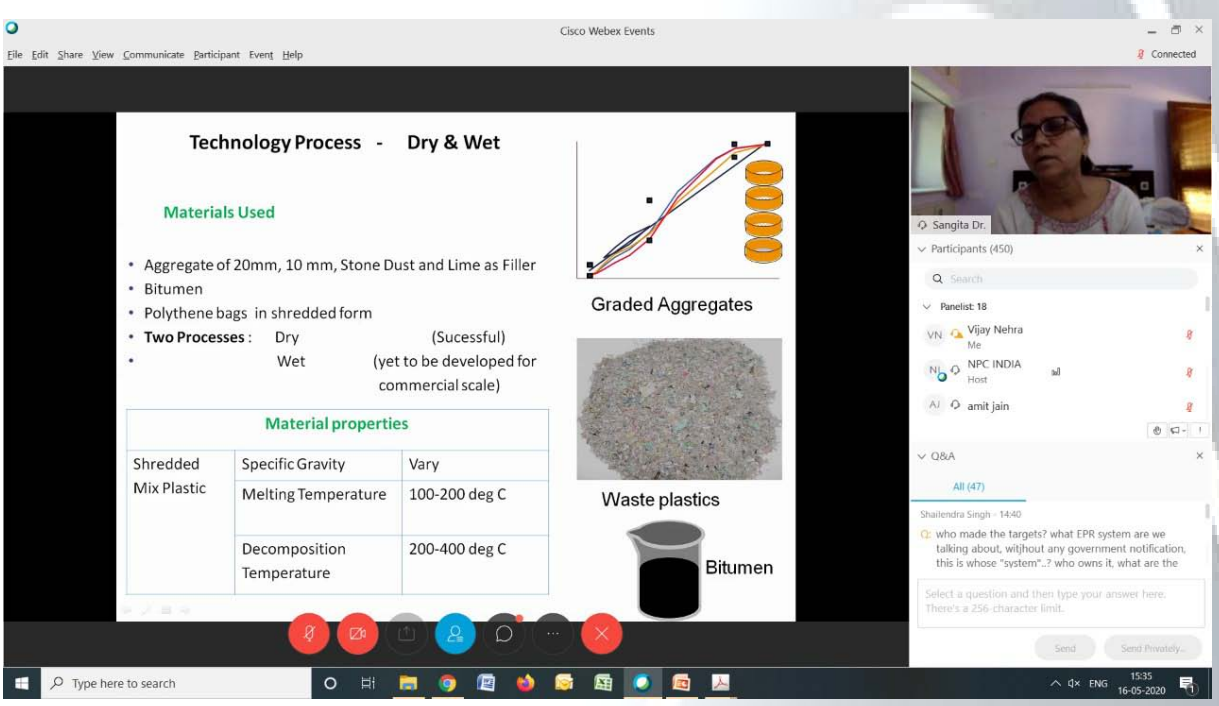
In the fifth presentation, by Mr. Varun Dilip Boralkar, Head of Growth & Special Projects, Geocycle India, he explained need of preprocessing for co processing Plastic Waste

He stressed that legally Co-processing is a preferred technology for the disposal of waste as it leaves no residue and hence facilitates zero landfill option. He showcased a case study of **Development of Bio-mining Projects in Goa, India.**

In the end he concluded with **recommendations for increasing plastic & RDF co-processing** by strictly implementing polluter pays principle, introducing landfill tax, Pre-processing infrastructure in cement plant extension to ULB MSW infrastructure; hence tax exemptions similar to MSW projects.

PRESENTATION 6:

Use of Waste Plastic for Bituminous Road Surfacingby Dr. Sangita, Former Head (Flexible Pavement), CRRI & Mr. Sanket Gupta (Director-S K Polymers) Researcher Plastic waste material for road surfacing



In the fifth presentation by Dr. Sangita, Former Head (Flexible Pavement), CRRI & Mr. Sanket Gupta (Director-S K Polymers) Researcher, Plastic waste material for road surfacing, the facets of Use of Waste Plastic in Bituminous Road Surfacing were presented.

Dr. Sangita began her talk with the limitation of available options for plastic waste disposal/utilization and the need for the use of waste plastic in Bituminous mixes .

She detailed about two technology processes - Dry and Wet for processing Plastic Waste with bitumen and Optimization of quantity of waste plastic in Bituminous Mixtures. The optimum quantity of waste plastics is 6- 8% by weight of bitumen depending on Type and thickness of Road Surface

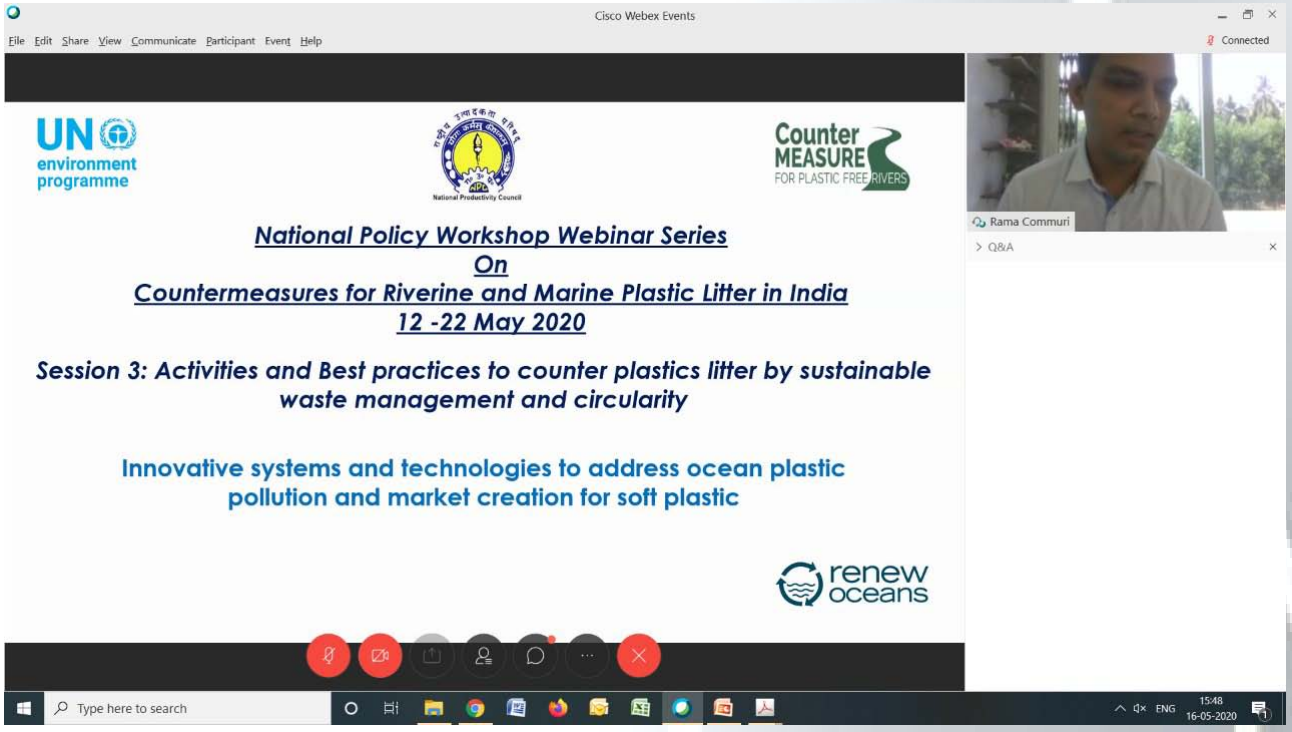
She highlighted the case studies of India where plastics were used for city roads, rural roads and national highways.

She then talked about advantages of Using Waste Plastic as Modifier and Binder, like higher resistance to deformation, higher resistance to water induced damages, increased durability and improved fatigue life and improved stability and strength.

She indicated that not all plastics can be used for road construction PVC cannot be used in road construction due high melting point than hot mix temperature.

PRESENTATION 7:

Innovative Systems and Technologies to address Solid Plastic Pollution and Market Creation for Soft Plastic by Mr. Rama Commuri,Renew Oceans

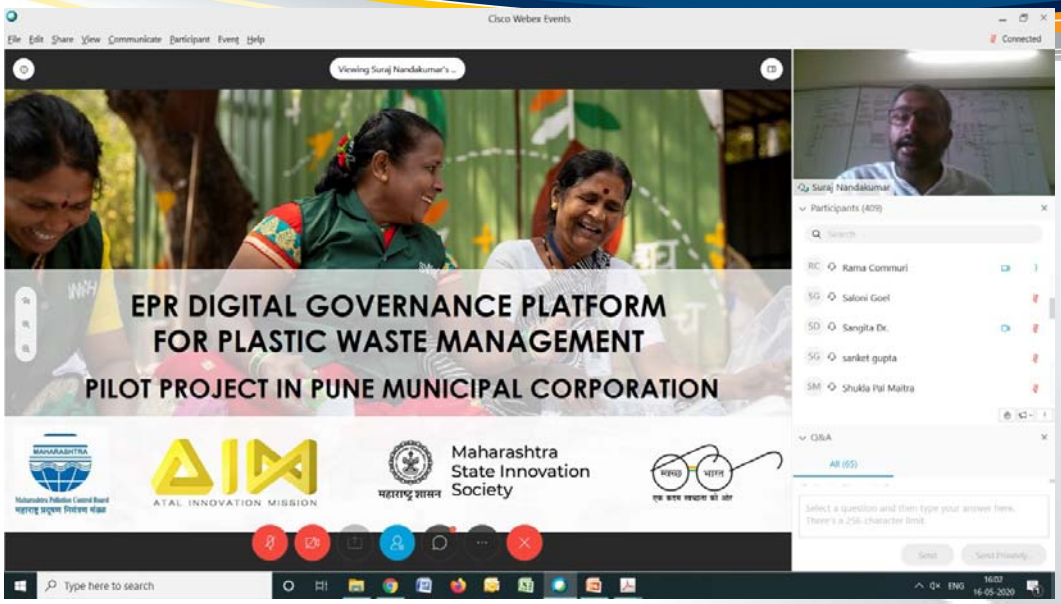


In the seventh presentation by Mr. Rama Commuri, Renew Oceans, the Innovative Systems and Technologies to address Solid Plastic Pollution were discussed.
After briefing the audience about their firm, they started with the aspects of data collection carried out by them with detailed mapping of Plastic waste generators, Plastic collectors and types & Quantities of plastic at various zones

He presented a Case study of Varanasi where they have installed pyrolysis plant for conversion of low economic value (soft) plastic in to diesel.
He discussed the infrastructural, behavioral, technological and financial challenges faced by them in meeting their objective.

PRESENTATION 8:

Digital EPR Systemby Mr. Suraj Nandkumar, Recity



The final presentation of the session was taken up by Mr Nand Kumar on EPR Digital Governance Platform. Mr. Suraj discussed pilot project study of implementation of EPR Digital Governance Platform in Pune. The project focus was towards standardizing and bringing Accountability & Traceability in managing post consumer plastic packaging waste.
He highlighted the prime aspects of EPR Governance platform comprising of Central registration portal, Obligation management, Discharging EPR, accountability, Compliance and decision support & analytics.

He elaborated on the practical ground work being undertaken from procurement of low value plastic from waste pickers, process of transfer at sorting & bailing facility to recycler creating a safe disposal certificate.He concluded by highlighting the scaling of this pilot study in 7 other states- Haryana, Himachal Pradesh, Uttrakhand, Maharashtra, Goa, Pondicherry and Karnataka.

KEY QUESTIONS RAISED BY ATTENDEES / PARTICIPANTS

The session was concluded by answering a series of questions by the speakers and panellists that were put up by several participants in the workshop. The significant questions asked during the Q&A session is as follows:

1. Is there any suggestion to how to minimize the use of plastic in common people in normal lifestyle? and also what we use instead of plastic
2. What is the difference between littered plastic and MSW? Can we say littered plastic if collected from MSW?
3. Is recycling of bottles cost effective too?
4. How do you promote behavioural change in low income groups where sustainable products are not purchased due to either high costs or other inhibitive factors like lack of resources to adopt such practices? Eg A high income group family can shop in bulk for
5. How can quality control system for waste segregation be improved?

6. Is plastic credit in practice yet? what is its acceptance/penetration with GoI?
7. How to collect the used plastic like bottle, plastic cups etc., some body collect in the streets,road sides how to avoid from the diseases in the plastic material and how to confirm from this
8. Bituminous roads is the most environmentally unfriendly process, in terms of heat it uses etc. Why is this called Green technology?
9. How can we make retailers co- effective partners in EPR process because collection from the customer is also essential besides collection from waste dumps
10. Can we use any type of plastic for road constructions?
11. Has there been any concerns of leaching of toxins into ground from these roads?
12. What can be done with the plastic scrap after road life is over and fresh layer has to be added

SALIENT FEATURES OF THE WEBINAR 3

The sessions highlighted the following.

(a) The importance of mainstreaming of Waste-Pickers and to bring Recyclers Incentives to maintain the Circularity of Reuse, Recycle, Reduce & Regenerate initiatives

(b) Collaboration with Municipal Corporations with investments for safety nets, social protection and basic services for Safaii Sathis

(c) Strengthening of existing EPR framework and role of informal sector to maintain value chain of plastic

(d) Promote design changes in packaging , shift of alternatives to plastics and promote market potential for recycled products

(c) Focus on reverse vending system where plastic waste such as PET bottles can be converted into PET resins for recycling into various applications such in paints and apparels, Caps & Bags, etc.

(d) Introduce Plastic Credit Unit (PCU) mechanism to covert compliance into Cost. To bring dynamic pricing to benefit of trade system that will encourage more recycling further the consumer & producer will become more sensitive to not to litter plastic. This will upgrade the existing socially responsible system to Auto Sustainable mode.

(e) For increasing plastic & RDF co-processing, it is recommended that Strict Implementation of Polluter Pays Principle is required through Introduction of Landfill Tax. Also recommended that Pre-processing infrastructure in cement plant may be extended to

Municipal Solid Waste management (MSW) infrastructure; hence tax exemptions similar to MSW projects shall be considered.

(f) To encourage use of Plastic waste in Bituminous Road Surfacing to construct all rural roads, city roads and state highways including single-use plastic is a possible solution for today's plastic pollution. Policy level intervention is required to make use of waste plastic as much as possible in Govt. tenders for road constructions.

(g) It was indicated that the soft plastics such as those having low economic value can be converted to oil.

(h) EPR digital governance platform is required to standardize, and bring accountability & traceability in managing post-consumer plastic packaging waste.

ENCLOSURES:

- **Press Release (s)**
- **Programme Agenda**
- **Session Flyer**
- **Concept Notes**
- **Presentation by each resource speaker**