

Workshop Working Paper
**Policy and Action on Waste and
Plastics in Pakistan**

31 May 2021



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**WORLD
ENVIRONMENT
DAY**

UN
environment
programme

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1972-2022



**PAKISTAN
2021**

Background: SWITCH-Asia

The European Union launched the SWITCH-Asia programme with a mission to support the transition of Asian countries to low-carbon, resource-efficient and circular economies while promoting sustainable consumption and production patterns within Asia and greener supply chains between Asia and Europe. The programme aims at providing a platform to promote sustainable consumption and production (SCP) policies and practices in Asia and enhance the awareness and dialogue of local stakeholders.

The SWITCH-Asia SCP Facility aims at strengthening the implementation of SCP policies at the national level. In continuation of the efforts in Pakistan, an advisory project was developed with the Ministry of Climate Change (MoCC) that addresses Pakistan's emerging urban challenges by strengthening institutional drivers to promote resource efficiency through a clean and recycling-based economy, particularly with regard to waste management and plastics.

Final Workshop:

The aim of the project's final multi-stakeholder workshop is to identify barriers and loopholes for the adoption of sustainable practices in waste management especially for packaging waste / plastics. Stakeholders are requested to provide valuable input and suggest policy enablers and actions that could translate SCP into projects on the ground in line with the project's policy recommendations.

The workshop is part of Pakistan's activities in the context of its hosting of World Environment Day, on June 5, 2021.

Workshop Agenda

31 May 2021

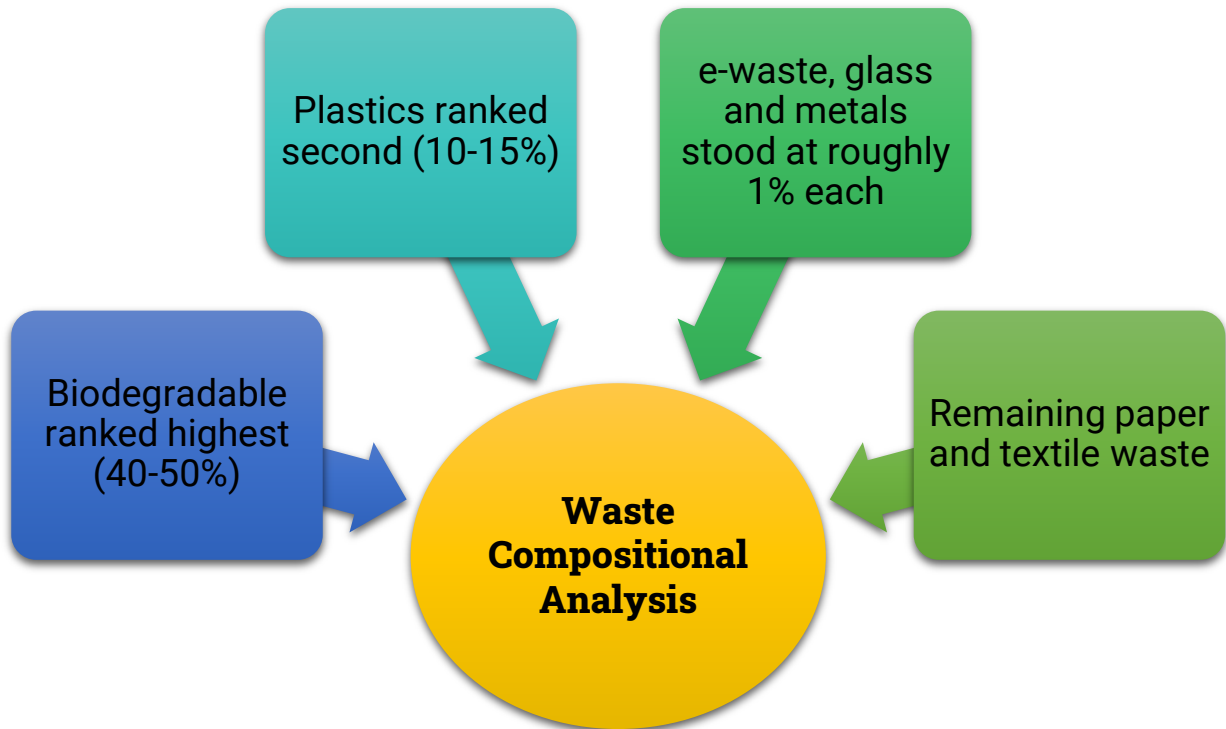
TIME	SESSION AND ACTIVITY
Session 1	
9:30 – 9:40 am 10 minutes	Opening of the Workshop Lead: Dr Saima Shafique, SWITCH-Asia SCP Facility Expert Remarks by Muhammad Irfan Tariq Director General, Ministry of Climate Change Remarks on SDG 12 – Sustainable Consumption and Production Dr Mushtaq Memon, UNEP
9:40 – 9:45am 5 minutes	Remarks from Ovidiu Mic, Head of Cooperation, European Union Delegation to Pakistan
9:45 – 9:50 am 5 minutes	Remarks from Government on SCP (MoCC) Zartaj Gul Wazir, Minister of State for Climate Change
9:50 – 10:00 am	Round of introductions
10:00 – 10:15am 15 minutes	Scene Setting Presentation covering <ol style="list-style-type: none">1) Legislations and case studies from the EU and EU member states on waste management with a focus on Extended Producer Responsibility (EPR)2) Current processes and lessons learnt from EU and EU member states on progress monitoring with regard to policies addressing plastics and packaging waste collection, recycling and minimization Presenter: Tom Clark, SWITCH-Asia SCP Facility Expert
10:15 – 10:30 am 15 minutes	Presentation on: <ol style="list-style-type: none">1) Waste management approaches- status quo of waste management in Pakistan, and analysis of waste streams, which qualify for the introduction of future EPR schemes in Pakistan2) A brief over view of some waste initiatives in Pakistan Presenter: Dr Saima Shafique, SWITCH-Asia SCP Facility Expert
10:30 – 10:35 am 5 minutes	Announcing the groups for discussion and sharing the input sheets with morning tea Moderator: Syeda Hadika Jamshaid

10:35 – 11:15 am	<p>Chair of the session will be Government official and Co- Chair will be from EU Panel Discussion with Provincial waste management companies focused on</p> <ol style="list-style-type: none"> 1) What is the current status of waste management in Pakistan, provide inputs on the waste generation, priority categories of concern, waste collection? Comment on the current institutional mechanism along with rules and laws pertaining to waste management? 2) What are the existing waste initiatives in Pakistan and identification of effective measures for waste minimisation 3) Economics of waste collection and waste minimisation for the selected category 4) What is the priority waste category in your opinion and what are the best practices on waste minimisation for the selected category <p>Moderator: Syeda Hadika Jamshaid</p>
11:15 – 11:30 am	Tea Break
11:30 – 12:15 pm 45 minutes	<p>Group work (two groups will be formed, one will work on waste minimization pilot and one will work on EPR evaluation framework)</p> <p>Group I Give recommendations for capacity building and pilot test (including objectives, scope, methodology, deliverables, timeframe and required resources) for waste collection and minimisation (e.g. based on producer involvement in line with EPR)</p> <p>Group II Conduct the EPR evaluation with the help of EPR framework</p> <p>Moderator: Four moderators will work two with each group; Dr. Saima , Leena, Hania and Mustafa</p>
12:15 – 1:00 pm	<p>Briefing on NDCs and Waste by ADB Presenters: Mr. Nasir Javed and Melanie Hobson</p> <p>Moderator: Syeda Hadika Jamshaid</p>
1:00 - 2:00 pm	Lunch and Prayer break
Session 2	
2:00 – 2:15 pm 15 minutes	<p>Presentation on preliminary impact assessment of the existing legislations on plastic waste management in Pakistan</p> <p>Presenter: Dr Saima Shafique</p>
2:15 – 2:20 pm 5 minutes	<p>Announcing the groups for discussion and sharing the input sheets</p> <p>Moderator: Dr Saima Shafique</p>

2:20 – 3:00 pm	Chair of the session will be Government official and Co- Chair will be from EU Panel Discussion focused on
	<ol style="list-style-type: none"> 1) What are the best practices on policies addressing plastics waste management which contribute plastics waste minimization and Analysis of (pros & cons) the applicability of identified best practices on plastics management in the context of Pakistan 2) How EPR schemes for plastic products, including complementing policy instruments (e.g. Deposit Refund Scheme for PET bottles) can work in Pakistan, What is our consideration for priority sector for EPR? What policies and strategies are to be made to implement EPR schemes? 3) Recommendations on how the identified best practices can help support the Government's Policy on Plastics
	Moderator: Dr. Saima Shafique
3:00 – 3:45 pm 45 minutes each group	Group Work (Two groups will be formed, one group will work on policy support mechanism, legislative support for waste management in Pakistan, the other group will work on EPR schemes that can be considered in the context of Pakistan)
	Group I Analyse the existing policy support mechanism , legislative milieu that supports waste minimization particular plastic waste
	Group II Work on EPR schemes considering plastic packaging waste in the context of Pakistan
	Moderators Four moderators will work two with each group; Dr. Saima , Leena, Hania and Mustafa
3:45 – 4:25 pm 40 minutes	Debriefing session, each group will be given 10 minutes
4:25 – 4:35 pm 10 minutes	Concluding remarks and vote of thanks Muhammad Irfan Tariq Director General, Ministry of Climate Change

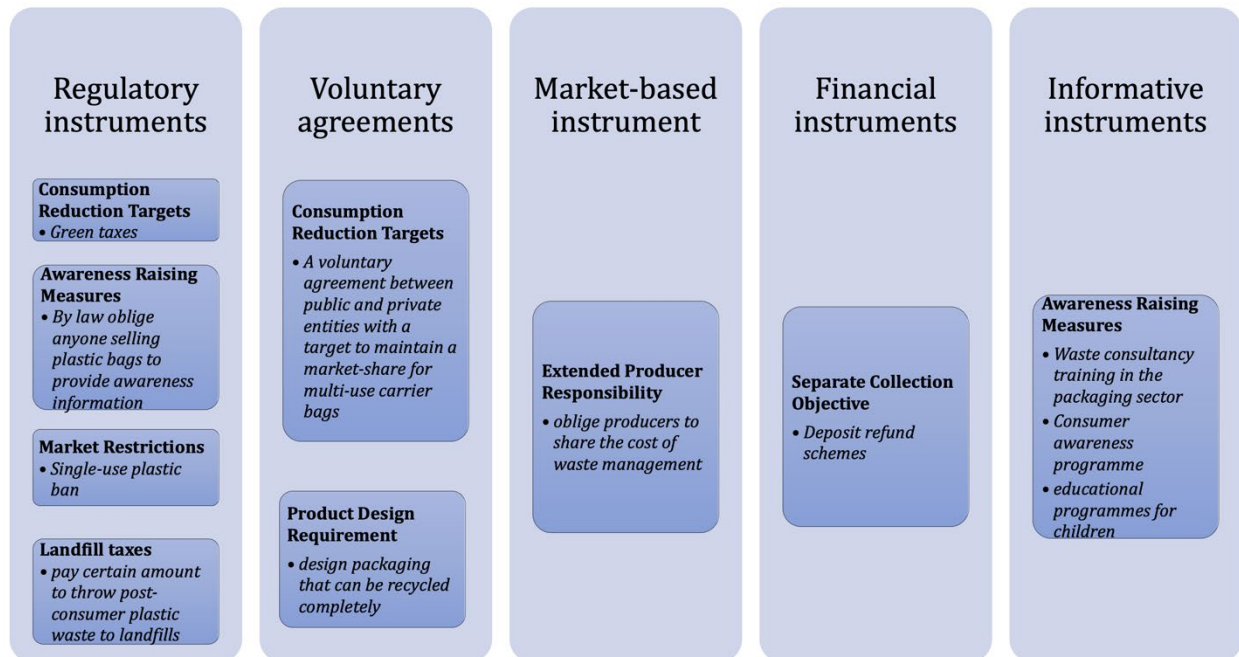
Summary of Findings:

Compositional analysis of waste collected from major cities in the country



Note: These figures mainly apply to the residential or commercial sector and are exclusive of the waste that is collected by the informal sector which could possibly have a high composition of recyclables

Instruments relevant to Pakistan's plastic problem



Extended Producer Responsibility for Waste Management:

Based on this limited information the following streams could qualify for an EPR scheme in Pakistan:

- Plastics (Packaging and PET bottles)
- Tyres
- Metals
- Mattresses
- Electrical Appliances (Air conditioners, TVs, Washing machines, refrigerators etc.)
- Construction and Demolition Waste
- e-waste
- Batteries
- End of life vehicles
- Chemicals and medicinal waste

Recognizing the fact that an integrated effort will be needed to achieve the intended objectives, it would involve ensuring that the following stakeholders (at a minimum) are engaged in the process:

- Government and Policymakers
- **Local and Foreign** Producers (Beverage Manufacturers, Appliance manufacturers, FMCGs, Packaging manufacturers, Vehicle manufacturing brands, Corporations, electronics manufacturers such as computers and smartphone companies)
- Retailers
- Suppliers
- Municipalities & local governments
- Treatment & Recycling centres
- Waste and Recycling collectors
- Industries and SMEs
- Household consumers
- Academia and Researchers

- Environmental organizations
- Industrial and Commercial consumers
- Financial Institutions/Economists
- Non Profit organisations
- Global development organisations

What other agencies could be included?

Recommendations:

The following results are observed and suggested for plastic waste minimization in Pakistan:

- Minimize the usage of resources and energy
- Redesign and reinvent to control waste generation at source
- Reduce waste as a whole and not only on a unit basis
- Aim at the reduction of CO₂ emissions in total lifecycles, instead of through reduced consumption only
- Avoid and discourage mass consumption
- Inculcate values in the society where waste is to be avoided and managed efficiently
- Improve social infrastructure including efficient city planning and development
- Develop local laws and regulations through a system translatable to entire country to improve effectiveness
- Ensure and provide efficient and thorough means for disclosure of information to promote action

Similarly, for an efficient EPR scheme for packaging, the following points should be ensured:

- The scheme should be run and controlled by the obligated companies
- The compliance scheme should be run on a not-for-profit / profit-not-for-distribution basis
- The role of waste operators and investors should be adequately defined to ensure low costs and lack of monopoly
- Public authorities & legislators should be involved in framing a strong and implementable framework with regular checks and balances
- Municipalities and local authorities should be involved in a collaboration to ensure efficient collection and disposal as well as awareness raising activities
- Oversight needs to be ensured for a level playing field, especially for waste streams with multiple simultaneous EPR schemes
- Sustainable financing systems need to be established based on joint financial responsibility of all obliged companies part of the EPR
- Public service mission and procurement rules should be made available to increase awareness with regards to the EPR waste stream.

Panel Discussion:

Panel Discussion 1: Pakistan's Waste Management Regime: An overview of key challenges and opportunities with Provincial Waste Management Companies

- 1) For your province, please provide a brief overview of the current status of waste management, by highlighting key waste generation streams, key challenges for each stream and mechanisms of collection deployed?
- 2) Please briefly comment on the current institutional mechanisms employed along with the governing rules and laws pertaining to waste management within your domain?
- 3) What is the priority waste category for your province, in your opinion and what are the best practices on waste minimisation for the selected category
- 4) What are some of the existing waste initiatives in Pakistan that could be further improved to include effective measures towards waste minimisation for this particular waste stream?
- 5) What are the economics of waste collection and waste minimisation for the category identified in the previous questions?

Panel Discussion 2: Plastic Pollution: Solutions, Alternatives & Innovation

- 1) What are the best practices and policies addressing plastics waste management with a key focus towards plastics waste minimization?
- 2) How would you recommend that these identified best practices can help support the Government's Policy on Plastics?
- 3) What are the key challenges and pros & cons of applying these identified best practices of plastics management in the context of Pakistan?
- 4) How can EPR schemes for plastic products, including complementing policy instruments (e.g. Deposit Refund Scheme for PET bottles) work in Pakistan?
- 5) What should be a key priority sector for EPR implementation in Pakistan? What supporting policies and strategies need to be developed in order to implement these EPR schemes?

Group Discussions:

GROUP DISCUSSION 1

Changes in consumption and manufacturing patterns worldwide has led to an ever-burgeoning increase in the amount of waste produced. Manufacturers are now producing items with shorter lifespans and a higher replaceability. On the consumption side, consumers have a wider variety to choose from and tend to dispose of things before they reach their designated end of life. These complexities coupled with a weak waste collection, recycling and disposal sector leads to a significant waste management challenge.

At present Pakistan generates 48.5 million tons of solid waste annually with megacities such as Karachi and Lahore, contributing the bulk of this figure. On average nationwide waste generation ranges from 0.24 to 0.65 Kg/capita/day, and has been growing at a rate of 2.4% annually. In most places waste management is being carried out by local authorities and municipal governments, with the informal sector playing a huge role in waste collection and separation. There is a dearth of material recovery and sorting facilities as well as sustainable options for waste treatment. Lack of established mechanisms, urban sprawl, very low levels of public awareness on the subject and lack of planning and capacity have often been cited as the major sources for the unfortunate state of the existing waste management system in Pakistan.

Give recommendations for capacity building and pilot test (including objectives, scope, methodology, deliverables, timeframe and required resources) for waste collection and minimization (e.g. based on producer involvement in line with EPR)

Location of Pilot:

Objectives of intervention:

Scope of intervention:

Methodology:

Key Deliverables:

Timeframe:

Required Resources:

Capacity Building activities:

Scalability and Replicability:

Identified Stakeholders and Process Owners:

Feedback Mechanisms and Periodic Checkpoints:

GROUP DISCUSSION 2: Conduct the EPR evaluation with the help of EPR framework

According to the OECD, extended producer responsibility is a policy approach where “**a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle**”. Building on the ‘Polluter-pays’ principle, the EPR approach aims to internalize the environmental externalities that result for product disposal and break down in the environment along the life cycle of a product. Through EPR mechanisms producers take over the responsibility of collecting products at their end of life and sorting them for final treatment, which in this case should ideally be recycling. Producers can exercise this responsibility through either the provision of financial resources for these undertakings or by directly taking over the operational and administrative requirements of product collection or recycling from municipalities for their products.

Extended producer responsibilities in a nutshell promote producers to innovate their product design making it easy to disassemble or recycle, reduction of packaging consumed and produced and reduction of waste at its source. By involving the producers, EPR mechanisms shift the responsibility of waste collection and recycling from the government and municipalities to the private sector. Most EPR schemes have to be governed through regulation where the producers are mandated to take responsibility for their products. Voluntary mechanisms are rare and only limited to products with high visibility such as electronic waste.

Keeping in mind these broader principles, the group is expected to implement a decision framework in the selection of an optimal waste stream for EPR application through a comprehensive selection mechanism. We employ a multi-layered weightage scoring mechanism where our major categories are subdivided into minor categories. Within each of these minor categories, we explore different questions which are then scored individually out of 5. Different waste streams are then evaluated against these questions, with the highest scoring waste stream identified for the application of an EPR scheme.

Our Major Categories include:

1. Environmental Impacts:

This category evaluates the environmental effectiveness of applying an EPR on the given waste stream. It evaluates the hazardous nature of the waste, its volume and societal impact, as well as the likelihood and consequences of impact with this particular waste stream. This category is accounting for **40%** of the total score.

2. Extended Producer Responsibility:

This category evaluates the ease of administrating an EPR scheme for a particular waste product, including the logistics, policies, recyclability, marketing etc. of the product. A score is also assigned for the nature of resource, including evaluating the Greenhouse Gases Emission reduction possible through a reduction in said waste. A major goal of any EPR scheme is to stimulate product redesign and that is also evaluated in this category. This category is **40%** of the total score.

3. Interest and Awareness:

Accounting for the remaining **20%**, this category scores the interest of the public, producers and the government and administration to implement a particular EPR scheme. It also scores the global support available for a particular scheme in terms of technical as well as monetary support.

The following subcategories and criteria are defined to evaluate each of the major categories. Each criterion is scored on a scale of **1 to 5** and the scores are then weighted as per set percentage weights to achieve a final score out of 100 for each of our waste streams.

1. Environmental Impacts:

Environmental and Health Effects:

- Are there significant environmental effects associated with the product? (20%)
- Are there significant human health effects associated with the product? (20%)
- Is the geographic extent of the human health effects significant? (10%)
- Is the duration of the human health effects significant? (10%)
- Is the geographic extent of the environmental effects significant? (10%)
- Is the duration of the environmental effects significant? (10%)

Waste Stream Volume or Weight Impact:

- Is this product a significant component by volume to the municipal waste stream? OR Is this product a significant component by weight to the municipal waste stream? (20%)

2. Extended Producer Responsibility:

Ease of Adminstrating an EPR scheme

- Logistical Ease of administering an EPR system for the product? (10%)
- Presence of infrastructure needed for instituting an EPR system (e.g. collection, segregation, transportation and disposal/recycling facilities)? (10%)
- Presence of supporting regulatory policies for waste stream? (10%)
- Strength of market for recycled items from waste stream? (5%)
- Recyclability? (5%)

Nature of Resource

- Are reductions in greenhouse gas emissions possible if the product were managed through an EPR program? (10%)
- Is this a nuisance product in terms of: litter; curbside collection or other infrastructure difficulties; or are there problems marketing the collected product? (10%)
- Is this a wasted resource that is not currently recycled, reused or otherwise marketed? (10%)

Encourage Product Redesign

- For this candidate product, could an EPR program reduce material and resource usage by stimulating product redesign? (10%)
- For this candidate product, could an EPR program reduce nonhazardous waste generation by stimulating product redesign? (10%)
- For this candidate product, could an EPR program reduce toxics usage and/or hazardous waste generation by stimulating product redesign? (10%)

3. Interest & Awareness

Public Interest

Is there public support and opportunity for awareness for an EPR system for this product? (25%)

Producer Interest

Are producers ready and willing to implement an EPR system for this product? (25%)

Political Interest

Is there political interest for initiating such a program for this product? (25%)

Global Support and Initiative

Are similar products managed under an EPR system globally or locally and are international bodies willing to support such a mechanism for the product? (25%)

GROUP DISCUSSION 3: Analyse the existing policy support mechanism, legislative milieu that supports waste minimization particular plastic waste

Any process or practice intended to reduce the amount of waste produced is termed as a waste minimization activity. A sustainable society and a circular economy demand that generation of persistent wastes should be eradicated or reduced at source including revaluation of societal consumption and production patterns. This involves a rethink in process and product design as well as value and supply chains of different processes.

Treatment of waste as a resource is also a key driving factor for modern waste management techniques practiced globally. This in turn, leads to greater innovation in recycling processes and limits or eliminates the use of landfills. Thus, one industry's waste becomes the raw material for another industry creating an economically thriving circular economy where resources are consumed sustainably and efficiently while eliminating waste. This circular economy is driving waste industries throughout developed nations, with the EU taking a lead through waste management legislations incentivizing such an industry.

As waste collection, treatment and disposal requires considerable effort and resources, reduction of waste presents itself as a viable alternative to the same. Traditionally, waste management involved reuse, recycling, treatment or disposal of the waste after its creation; however, modern waste management techniques focus on avoiding creation of waste in the first place. This involves processes such as cradle-to-grave analysis, value stream mapping of production processes and products, waste data collection and mining, as well as compositional analysis of the materials of waste for efficient reuse in a circular economy.

As per the European Commission, any waste minimization best practice should have the following characteristics:

- **Targeted:** These methods should be focused on the promotion of waste prevention instead of other waste management strategies or wider goals
- **Innovative:** Techniques utilized should be unique and imaginative
- **Replicable:** The practice should be easy to reproduce and replicate across various regions to similar results
- **Representative:** Practices should be widely practiced across various regions and countries at different administrative levels, while targeting a range of waste streams
- **Effective:** Practices should have clearly characterized goals and quantifiable outcomes

The overall aim of this discussion is to assess the gaps, challenges and opportunities in the existing policy mechanisms and laws and regulations of the country with regards to waste minimization. Insights on how to further improve the policy support towards widespread implementation of the waste management regime, while incorporating global best practices and Pakistan's wider climate goals and ambitions are desired. Some of the policies that can be discussed include:

- The Pakistan Environmental Protection Act 1997
- National Environment Action Plan (NEAP) 2001
- Draft Guidelines for Solid Waste Management 2005
- National Environment Policy 2005
- National Sanitation Policy 2006
- National Climate Change Policy 2012
- National Development Strategy 2012
- Hospital Waste Management Rules 2005 & 2014
- Punjab Environmental Policy 2015
- Draft Hazardous Waste And Hazardous Substances Rules, 2016

Group–I Analyse the existing policy support mechanism, legislative milieu that supports waste minimization particular plastic waste

For each policy support mechanism/legislation, please utilize the template below:

Support Mechanism / Legislation:

Salient Features:

Gaps and Challenges in support mechanism:

Opportunities for Improvement:

Global Best Practices:

Revised Targets:

Recommendations:

GROUP DISCUSSION 4: Work on EPR schemes considering plastic packaging waste in the context of Pakistan

Some of the policy instruments that can be considered for waste minimization through EPR can include the following:

Product take-back: producers are responsible for taking back their products at the completion of the useful life of the product.

End-of-life waste management fees: charged to consumers, via either a “pay as you throw” mechanism or a collection and treatment cost

Advance disposal fee: A tax or fees levied at the sale of the product to cover the end-of-life waste management costs of the product. Producers are responsible for collection of the charge and forwarding it to the authorities who are responsible for collection and disposal.

Mandatory deposit-refund system: the consumer pays a deposit at the time of purchase, which is then refunded partially or completely at the time of return for efficient collection.

Recycling incentives: Subsidies could be paid on collection, recycling, reprocessing or use of recycled materials etc. Laws mandating a minimum recycled material usage or tax on virgin materials could also be promoted.

Disposal disincentives: Taxes could be levied on disposal, incineration etc. to promote recycling and reuse.

For any EPR scheme, the following decisions need to be made:

- Is there a need for an EPR mechanism in Pakistan for the waste stream identified?

- What kind of governance structure for EPR would most suit Pakistan? (Business/industry led voluntary mechanisms, Regulated structure through legislation, Producer Responsibility Organizations (PRO), Multiple PROs etc.)

- What kinds of gaps exist in the waste management infrastructure in the country?

- What is the best policy instrument for an EPR scheme in Pakistan? (Product take back schemes, Deposit refunds, Advance disposal fees, taxes etc.)

- What are the Collection / Recovery Channels?

- Organisation, Logistics & Treatment:
 - Single Producer Responsibility Organisation (PRO) vs. multiple service providers?
 - In-house vs. outsource?
 - How many categories of Waste?

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- Targeted collection rates?

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- Informative instruments:

- Use a disposal fee? Visible or not?
- Campaigns or other PR approaches?

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- Financing structures:

- Do fees accrue in a fund, or invoice payments?
- Cost-sharing for historical / orphan products?
- Real costs of treatment or flat fee per type?
- Guarantees: financial guarantees, insurance, participation in scheme?

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- Challenges towards the successful implementation of the EPR scheme

- Role and responsibility of the stakeholders towards the scheme

- Environmental and financial sustainability of the scheme

- Mechanism of the scheme in terms of collection, treatment and/or disposal

- Assessment of the awareness and information required towards the implementation of the scheme?
