INTERNATIONAL SYMPOSIUM ON

Sustainable use of Plastic Packaging as Food Containers

Key Takeaways

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On the 30th July 2024
at the Hilton Colombo Residencies

Opening remarks

Mr. Buwanekabahu Perera
CEO
The Ceylon Chamber of Commerce

"As we work on managing plastic waste and promoting sustainable development, it is important to use scientific evidence in our decision-making."

- The primary goal of the symposium is to foster meaningful conversations that integrate scientific insights, regulatory guidelines, and industrial practices. This integration aims to promote sustainability in plastic packaging within the food industry while ensuring safety.
- The symposium addresses significant environmental challenges posed by plastic packaging. While plastic packaging is widely used in the food industry due to its affordability and durability, its widespread use has led to severe environmental issues.
- There is a strong emphasis on the need for robust regulations based on scientific evidence. Such an approach aims to establish global standards and effectively address local needs.
- The symposium aims to review current practices in plastic packaging and explore new technologies and methods in plastic recycling, including discussions on recyclable technologies that can make plastic packaging more sustainable.
- The importance of collaboration among the public sector, private industry, and academia is underscored. Joint efforts are deemed crucial for discovering new scientific advancements and creating solutions that benefit the economy, environment, and society.
- The discussions during the symposium are intended to inspire new ideas and foster collaboration. These elements are essential for driving progress towards shared goals in sustainability.
- A call to collective action is made to positively impact the environment and ensure a better future for the next generations. Participants are encouraged to work and walk together towards this common goal.

Context setting

Mr. Lakshan Madurasinghe
Director - Public Affairs, Communications and Sustainability
Coca Cola – Sri Lanka, Maldives, Nepal and Bhutan

"We need to craft policies that are informed by the latest scientific understanding and designed to address both the practical view of the industry and the pressing environmental challenges we face."

- The intersection of sustainability, partnership, and innovation is emphasised as core components of the professional journey at Coca-Cola. The symposium is a significant event that will shape effective policies, interventions, and practices required to address the challenges of plastic waste and strive for a sustainable future.
- The symposium aims to balance the advantages of plastic packaging, which is vital for keeping food fresh and affordable, with the imperative of environmental stewardship. This event is a crucial step towards ensuring a sustainable future for Sri Lanka and its communities, addressing the environmental concerns and mismanagement associated with plastic use.
- A science-based approach is highlighted as essential for guiding decision-making, not just through incremental changes, but through solid, research-backed evidence. Policies crafted based on the latest scientific understanding will address both the practical needs of the industry and the pressing environmental challenges faced.
- Collaboration across all sectors is deemed necessary, emphasising the power of uniting government, industry, media, youth organisations, and academia. This united effort is crucial for creating innovative and practical solutions. The symposium stands as a testament to the spirit of cooperation and partnership, providing a platform for sharing knowledge, exploring new technologies, and developing effective and actionable strategies.
- The discussions will evaluate current practices, examine the use of plastic packaging, and understand the environmental impacts. By analysing these practices, a clearer picture of the challenges and opportunities will emerge. New innovations, such as advancements in rPET (recycled polyethylene terephthalate) plastic, will be explored, offering promising solutions for more sustainable packaging.
- Existing regulatory frameworks will be reviewed to identify areas for improvement and propose changes that ensure both safety and environmental responsibility. Aligning regulations with sustainability goals will better support the industry and the environment in Sri Lanka.
- The agenda has been thoughtfully designed to provide a comprehensive exploration of the challenges and opportunities surrounding sustainable plastic packaging. Each segment aims to offer valuable insights and foster robust discussions that will drive collective action and progress..
- The dedication and involvement of the participants are pivotal as the symposium works towards a sustainable and effective approach for plastic packaging. The discussions aim to pave the way for a brighter, more sustainable future.

Keynote address

Mrs. Pathma Abeykoon
Additional Secretary Environment Planning
Ministry of Environment

> ***"Public-private partnerships and international cooperation are vital for sharing knowledge and resources to achieve this task [sustainable plastic management]."***

- Plastic packaging is instrumental in safeguarding food quality and extending shelf life, especially for nations like Sri Lanka, where agriculture plays a vital role in the economy. Modern packaging technology's ability to protect food from spoilage, contamination, and waste is acknowledged as a significant achievement.
- Globally, we face a triple planetary crisis of biodiversity loss, climate change, and pollution, with a particular focus on plastic pollution in the oceans. There are reports around microplastics pollution and its potential to release harmful chemicals, this aspect needs to be studied with scientific evidence.
- Currently there is no sufficient information on the impact of microplastics on human health. However, adherence to precautionary principles in using plastic packaging is emphasised due to the its potential health impacts. Addressing this requires a multifaceted approach that involves innovation in materials, advancements in recycling technologies, and strong policy and legal frameworks.
- Two promising developments are highlighted: **enhanced recycling processes** and **eco-friendly packaging designs**. Enhanced recycling involves efficiently collecting, processing, and reintroducing plastic packaging into the production cycle, promoting a circular economy. Eco-friendly packaging designs aim to use less material while maintaining protective qualities, leading to significant reductions in plastic waste and transportation costs.
- The Sri Lankan government is committed to sustainable practices for plastic waste management through the National Waste Management Policy 2020, National Action Plan on Plastic Waste Management 2021 – 2030 and The National Environment Action Plan 2022 – 2030.
- Public-private partnerships and international cooperation are vital for sharing knowledge and resources to achieve sustainable plastic management. Educating consumers and policymakers about the environmental impact of their choices and promoting responsible disposal practices are essential for driving demand for sustainable packaging.
- The global issue on plastic management is addressed through the United Nations Environment Assembly' resolution to develop an international legally binding treaty on plastic pollution. This treaty aims to promote sustainable plastic production and consumption, reduce single-use plastics, enhance plastic waste management systems, advance recycling and circular economic practices, address microplastic pollution, and strengthen international cooperation and governance.
- The establishment of this legally binding treaty is expected within this year, requiring all participating nations to adhere to its guidelines. The commitment to environmental conservation and sustainable solutions is emphasised, balancing economic growth with environmental stewardship.
- Engagement from consumers, policymakers, public health institutions, plastic producers, academic research institutions, plastic collection agencies, recyclers, and industry representatives is encouraged to foster a strategic way forward for sustainable plastic packaging for food.

Technical Session 1

Plastic waste management - policy maker's perspective (Sri Lanka)

Mr. Chathura Malwana
Deputy Director General - Waste Management
Central Environmental Authority

"It is very much appreciated as [there is a increasing] number of companies that work with us [Central Environmental Authority] voluntarily"

- Past efforts in plastic waste management in Sri Lanka, such as the regulations from 1947, primarily focused on solid waste collection and disposal but lacked comprehensive measures for waste generation control.
- In 1980, new legislation allowed for broader authority over environmental issues, including waste management. The National Environment Act enabled more effective control over waste generation, collection, and disposal. This marked a shift from merely addressing final disposal to minimising waste generation at the source.
- Efforts in the late 1990s introduced color-coded waste separation systems, which initially garnered public support but faced challenges due to administrative and operational issues. Despite setbacks, significant progress was made with initiatives like the National Post Consumer Plastic Waste Management Project in 2007. This project aimed to increase awareness on post consumer plastic waste management with the public, industrial sector, and local authorities, while facilitating recycling and waste separation efforts by providing equipment like recycling machines and separation bins.
- The importance of public-private partnerships and international cooperation was emphasised, acknowledging the role of various stakeholders, including local authorities, experts, and donor agencies, in advancing waste management practices. The introduction of technical and financial assistance for waste management projects was crucial in enhancing the capacity of local authorities to manage waste more effectively.
- In 2017, regulations were enacted to control the manufacture and use of plastic products, particularly those below 20 microns in thickness. Discussions with manufacturers led to agreements on increasing the thickness of plastic bags and other items to improve recyclability. However, enforcement remains challenging due to non-compliance by some manufacturers.
- Several measures were introduced to reduce plastic pollution, including bans on plastic burning, prohibition on the use of plastic for decorations, and manufacture of certain plastic food containers.
- Ongoing initiatives aim to enhance knowledge and competency in waste management among relevant stakeholders, including small and medium-sized enterprises (SMEs). Efforts to improve recycling infrastructure, promote the use of eco-friendly alternatives, and enforce stricter regulations on plastic manufacturing are ongoing.
- In recent years, further regulations have been introduced to prohibit the use of specific plastic items, such as PVC packaging and expanded polystyrene products. The focus has shifted towards promoting biodegradable alternatives and encouraging responsible consumption and disposal practices.
- The implementation of an Extended Producer Responsibility (EPR) system is a key strategy, with plans to make it mandatory and introduce increment charging systems on shopping bags. Efforts to phase out single-use plastics are supported by discussions with supermarkets and other stakeholders to ensure compliance and reduce plastic usage.

Technical Session 2

Recyclable PET packaging for food – science, safety and regulatory approval

Mr. Rajendra Dobriyal
Senior Director – Scientific and Regulatory Affairs
Coca-Cola India & Southwest Asia

"There are at least 90 countries who are allowing recycled PET in food contact materials."

Understanding PET and Its Importance

- PET (polyethylene terephthalate) is a type of plastic made from Ethylene Glycol and Terephthalic Acid, which come from petroleum. It is highly valued in the packaging industry due to its lightweight, flexibility, and excellent protection against microbes and moisture. PET can be molded into various shapes, making it ideal for bottles and jars. Importantly, PET can be recycled multiple times without significant degradation, making it a sustainable packaging option.
- Despite its advantages, the misuse and improper disposal of PET have led to environmental concerns. The speaker stressed that it is human behavior, not the material itself, that has turned PET into an environmental culprit.

Recycling Practices and Challenges

- The traditional linear recycling model involves repurposing PET bottles into products like bags, clothing, and furniture, which eventually end up in the environment. The goal is to move towards a circular recycling model, where PET bottles are continuously recycled back into bottles, reducing waste and environmental impact.
- Achieving true circular recycling requires collaboration between industries, governments, and consumers to minimise waste going to landfills and maximise the reuse and recycling of PET.

India's Regulatory Journey

- India's regulatory landscape for recycled PET has seen significant changes. Until 2020, multiple regulations across different ministries prohibited the use of recycled plastic, including PET, in food contact materials. The lack of awareness and knowledge at the time about the safety of recycled PET was a major barrier.
- From 2019 to 2022, extensive deliberations and capacity-building efforts led to the creation of enabling regulations. In 2021, the Ministry of Environment lifted the prohibition on recycled PET, tasking the Food Safety and Standards Authority of India (FSSAI) with developing guidelines.
- FSSAI, after thorough discussions and studies, including input from global authorities like the US FDA and EFSA, approved specific technologies for recycling PET. These technologies ensure that recycled PET is safe for food contact, meeting stringent safety standards.

Current Regulations and Future Goals

- India now mandates that by 2025, 30% of all PET packaging must be recycled PET. The focus is on ensuring food safety through rigorous validation processes and approved recycling technologies. Only food-grade PET is allowed, with stringent controls to remove contaminants.
- India's success story in enabling recycled PET in food packaging is seen as a model for other countries. The regulatory framework is designed to ensure consumer safety while promoting sustainability and reducing plastic waste.

Technical Session 3 (Virtual)
PET B2B recycling as a pathway to maximise value in food packaging sustainability – regional perspective

Mr. Navneet Chadha
Circular Economy Investment Expert
Planet Partnerships

> ***"Sri Lanka has both a low PET collection rate and low waste prices so there isn't an incentive for people to collect the PET bottles."***

- The recycling process involves several stages, from collecting and sorting PET bottles to processing them into flakes, fibers, or even new bottles. The highest value is achieved when there is closed-loop recycling where PET bottles are recycled into new PET bottles, ensuring circularity.
- Recycling is only a part of the system's solution. The infrastructure needs to be built which improves collection, processing, end markets, education and consumer engagement. Further enabling policies and public private partnerships should come in. So recycling should be viewed as a part of a complete system otherwise it would be futile.
- There main policies to increase waste collection are voluntary EPR, mandatory EPR and container deposit schemes. Voluntary EPR exists in Sri Lanka but lacks comprehensive coverage and financial support for the recycling system. Also voluntary ERP means that not everyone will participate and in Sri Lanka only the leading brands are participating, which is less than 10 out of more than 100 PET manufacturers. Next stage for Sri Lanka is mandatory EPR and deposit return schemes (DRS).
- Countries like Germany and Finland have implemented successful DRS systems that increased recycling rates significantly. Successful recycling systems such as DRS, depend on effective public participation and infrastructure, while it is understood that consumer behavior varies from country to country.
- There have been a increasing number of B2B Recycling Plants in the Asia-Pacific in the past few years due to the regulations being setup since 2020. Many of these plants are joint ventures across the value chain which enables them to be in successful operation.
- Collection rates depends across countries. In Australia it is driven by ERS has it was implemented long before. In Thailand it was driven purely by market forces despite not having DCS and EPR. The market is much bigger with 400,000 tones of PET, and even if half is collected 200,000 tones of PET can be collected which can support three B2B PET recycling plants.

Challenges and Opportunities in Sri Lanka

- Limited financial support and coordination are major challenges.
- There is an opportunity to develop a more comprehensive recycling system tailored to Sri Lanka's context.

Investment and Financing

- Successful recycling projects often involve blended finance, combining private and public sector funding.
- Well-designed PET B2B projects are bankable as evidenced by financing provided by impact investors, commercial banks, and international financial institutions

Future Directions

- There is a need for a holistic approach, considering both supply and demand sides of the recycling system.
- Collaboration between private and public sectors is crucial to develop effective solutions for Sri Lanka.

Technical Session 4

Industry road map towards sustainable plastic packaging – circularity approach

Mr. Neeraj Kumar Porwal
Senior Director – Sustainability
Coca-Cola India and South-west Asia

"How plastics is consumed in the world - 44% in packaging and 18% in building & construction and it is increasing every year. The absolute usage is increasing and we are not reusing and it [poses] the need of being more circular"

- The key features of the traditional linear model are to take, make, and dispose. The main criticism of this model is being unsustainable and harmful to the environment. Therefore, there is a need to transition from linear to circular models where waste is minimized, and resources are continually reused. It is important to remanufacturing rather than just producing.
- Critique of the "make and throw" approach which leads to unsustainable waste practices, as what is taken from earth is used to produce products that ends up back into the earth and it is not reused.
- PET is the most sustainable packaging and has the lowest carbon footprint in the world which can produce a product in a safe package.
- Coca Cola introduced its first PET bottles in 1978 and the first recycled PET was used in 1991. Coca Cola then evolved the circularity concept over the next decades, where the first plant based PETs were rolled out in 2009 and the launch of the 'World Without Waste' in 2019, where the goal is to collect and recycle the equivalent of 100% of Coca Cola's packaging worldwide, and manufacture PET bottles using at least 50% recycled plastic by 2030. Also there is a commitment to having all packaging be 100% recyclable by 2025.
- A recycling eco system includes investment in technology and partnerships with suppliers will improve recycling processes and sustainability. It is also important to work with regulatory bodies, suppliers, and other stakeholders to build a sustainable ecosystem, ensuring that all the upcoming sustainable practices are in compliance.
- A recycling eco system also includes educating consumers about circular economy principles and the importance of recycling. Further, it includes having a robust collection system, collaborative partnerships and the creation of a supplier base.
- A circular economy as opposed to a linear or recycling economy, can never have waste as materials are repaired, reused and recycled. Principles of a circular economy includes:
  - **Eliminating waste:** It is importance to design products that do not become waste and can be fully recycled or composted.
  - **Circulating Materials:** Keeping materials in circulation at their highest value to prevent them from becoming waste.
  - **Regenerative Practices:** Japanese consumers prefer products made from recycled materials. As a result Coca Cola Japan has resorted to generate PET from Agri waste called Bio-PET, where naphtha is created from biomass.
- Coca Cola India consistently worked towards replacing the virgin PET with recycled PET in the carbonated beverage category, which increases reusability and reduces the carbon emissions. This was inspired in Bangladesh as Coca Cola Bangladesh was the first in the region to introduce 100% rPET.

Technical Session 4 cont'd

Industry road map towards sustainable plastic packaging – circularity approach

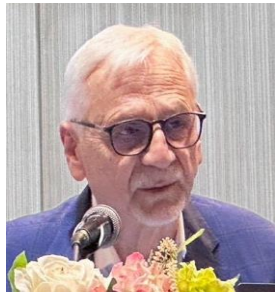
Ms. Thamari Senanayake
Director Public Affairs, Communications and Sustainability
Coca-Cola Sri Lanka

"From a linear economy to a circular economy, we [Sri Lanka] has come a long way."

- In 2017, Coca-Cola Sri Lanka launched its local adaptation of the global sustainability initiative "World Without Waste" under the name "Give Back Life." This initiative aims to collect and recycle every PET bottle and can used by the company by 2030 or even sooner. The goal is to ensure that for every bottle or can sold, one is collected and recycled, significantly reducing plastic waste and contributing to environmental sustainability efforts in Sri Lanka.
- A key pillar of the "World Without Waste" initiative is design, which focuses on reducing the environmental impact through innovative packaging design improvements. Coca-Cola Sri Lanka has implemented several measures to this end. One such measure includes the reduction in label thickness and density, which decreases the material used year after year.
- Additionally, there are efforts to reduce the preform weight, aiming to decrease the size and weight of the packaging, making it more recyclable. These design improvements are applied to both carbonated beverages and bottled water, reflecting a comprehensive approach to sustainability.
- Initially, the Sri Lanka Standards Institute (SLSI) mandated the use of shrink wrap on all bottled water, contributing to additional plastic use. However, this requirement was later removed, thanks to advocacy and sustainability efforts by the industry. The removal of this mandatory shrink wrap now ensures that less plastic is introduced into the environment, whilst ensuring the quality of the product, aligning with broader sustainability goals and reducing the ecological footprint of bottled water products.
- In late 2022, Coca-Cola Sri Lanka introduced large returnable glass bottles (LRGB) as part of its initiatives to promote reusability and reduce plastic waste. This initiative encourages consumers to return and reuse glass bottles. The introduction of LRGBs is a significant step towards popularizing the concept of reusability among consumers in Sri Lanka.
- Based on our global strategy and the feedback received from local recyclers Coca-Cola decided to transit from colored PET to colorless. As a result, the popular Sprite bottles, which were traditionally green, have now transitioned to clear bottles. This change enhances the recyclability of the bottles and supports the overall goal of reducing plastic waste and promoting environmental sustainability.

Technical Session 5 (Virtual)

Recyclable PET – science, safety and sustainability



Mr. Dario Dainelli
Policy and Regulatory Affairs
European Plastics Converters Association, Italy

"Food-grade rPET can be produced from validated decontamination processes and the validation is made through a challenge test based on well-established safety principles."

- Bottle-to-bottle PET recycling represents a unique example of Circular Economy applied to plastics, and should be supported and encouraged. The current technologies and regulatory systems for PET recycling ensure that bottles made of rPET are safe and high quality. PET recycling technologies should be recognized and accepted, and can safely be adopted on a global basis.
- EU has adopted many policies and targets to foster a circular economy. The Packaging & Packaging Waste Directive mandates 25% recycling plastic packaging in 2025 and 55% in 2030, Single Use Plastic Derivative sets an incorporation of recycled PET in beverage bottle target of 25% in 2025 and 30% in 2030 and a collection target rate of PET bottles of 77% in 2025 and 90% in 2029.

Process of recycling in the EU

1. **Collection & sorting is the first step of recycling:** Manual sorting is widely used in many countries, however it is labour intensive and slow, therefore it is increasingly replaced by mechanical sorting methods. Mechanical sorting includes using Ballistic Separators, near infrared & other sensors.
2. **Cleaning systems transform collected bottles in high quality rPET flakes:** Caps, labels, glue, coloured and non PET bottles should be removed in the process. Bottles then undergo grinding into fakes and multi stage cleaning process where the contaminants are removed. PET flakes are then catorgorised into food–grade and non-food grade rPET. Food-grade rPET is further decontaminated and used for food & beverage packaging, while non-food grade are used for textile, flooring and other semi durable goods.
3. **Validated processes use rPET flakes to produce food-grade rPET:** General safety requirements include packaging shall not endanger the consumer through product adulteration due to chemical migration from packaging and Packaging shall not impact the taste/smell of the product contained within. All regulatory systems aim at qualifying the suitability of processes to clean-up the flakes and obtain food-grade PET pellets
4. **Compliance:** Decontamination technologies have been proven to consistently deliver clean and safe rPET. US FDA approves rPET recycling plants since 1991. EU EFSA started in 2012, and delivered positive opinions for about 350 recycling plants. Recycling process technologies accepted by US FDA or EFSA can be accepted elsewhere. Opinions issued by US FDA or EFSA can be regarded as valid for compliance purposes.

- A decontamination unit should have the following in place:
  - Input and output specifications and Standard Operating Procedures for control, including sampling procedures and certificate of analysis of the output.
  - Critical Control Points: identification, specifications and verification procedures.
  - Standard Operating Procedures for operations, emergency measures, traceability.
- There are other models and system in other jurisdictions such as in Japan, Mexico and Australia, so there is no need to reinvent the wheel.

Technical Session 6

Collaborations for plastic collection - learning from international development sector

Ms. Janani Kanapathyraj

Project Manager – PLASTICS Project

Acted Sri Lanka

"The collaborative efforts of NGOs, with the support of government agencies, private sector and the concerned citizens are making a tangible difference, however, the fight against plastic waste is far from over and we need continuous collaboration"

- There is a significant gap in the plastic waste collection in Sri Lanka due insufficient waste management and malpractice. Initially an assessment was conducted using the Acted global Enterprise Capacity Assessment tool, where barriers of plastic waste collectors were identified that is preventing their waste colleting capacities.
- Main barriers include:
  - Infrastructure barriers
  - Mixed plastic waste
  - Inefficient collection mechanisms
  - Lack of technical skills to manage different types of waste
  - Lack of awareness of regulations
  - Malpractices in collection and recycling processes
  - Social stigma
- The most common business model in Sri Lanka is the cycling business model which entails recycling, refurbishing and reusing.
- The plastics project, funded by the EU SWITCH-Asia programme, takes a wider value chain based approach starting from plan owners to informal level collectors. With the value chain approach Acted SL tries to increase resource efficiency in the plastic industry and reducing GHG emissions.
- Initiatives taken by Acted Sri Lanka to improve the waste collection system:
  - Financial support on transformative assets to expand waste collection system.
  - Capacity Building: Ethical practices, environmental regulations, legal requirements, business plans to set targets on plastic collection and expansion, bookkeeping etc.
  - Policies: With project partners supporting on standardizing the EPR portal , support on policy paper developments
  - Green Finance: Support to mainstream clean tech financial products in financial institutions' portfolios
  - Multi Sector corporation: Collaboration between financial institutions and government sector , PET and HIPS consortia
  - Innovations around collections: Smart bins and collection systems that smoothen the waste collection and segregation, especially for women. promote upcycling initiatives
- The promoting waste collection project in the Western province, funded by the Coca Cola Foundation, focuses on local authorities that don't have the land extent to manage plastic waste. An important feature of this project is the launch of a mobile app that connects the material recovery facility (MRF), sub collectors and households. This enables a timely waste collection mechanism.

Technical Session 6 cont'd

Collaborations for plastic collection - learning from international development sector

Mr. Roshan Salinda
Deputy Chief of Party
USAID Ocean Plastics Reduction Activity

"Awareness programs seem to have limited utility in the grand scheme of things. Awareness programs should targeted with economic incentives, and facilities for disposal, otherwise the awareness message is not taken seriously."

- Sri Lanka's plastic waste collection/recycling rate is in the single digits with an plastic recycling rate of 4%. However, the PET recycling rate is relatively higher at 25-30%, as it deals with a higher value added product and there is a potential for further improvement.
- Our objectives is to reduce plastic waste generation, open dumping, improper disposal, and improve collection and recycling. We focus on the entire plastic value chain from the point of importation to the point of final disposal and treatment.
- Downstream solutions such as material recovery facilities (MRFs) were achieved by establishing 20 women-led material recovery facilities at strategically locations in Sri Lanka. This was made possible by forging an agreement with Ceylon Cold Stores and Viridis Recycling Pvt Ltd as recycling partner. Currently, MRFs are operational in 7 locations, 2 more locations are to start soon and 4 more have started their initial phase.
- Through this 20 MRFs we aim to create 1000 livelihood opportunities for men, women and youth in rural areas as the MRFs are located outside the Western province. The MRFs are also strategically located in costal lines, tourism areas and fisheries areas where the waste generation in higher.
- Together with the international organisation empower.eco, which is a plastic credit platform, we are currently piloting plastic credits with 4 MRFs in Sri Lanka. Plastics credits allows individuals and MRFs to generate additional income which is based on collection volumes. Ocean bound plastics currently stands at LKR 150/kg while inland plastics stands at LKR 60/kg.
- With provision of e-bikes, the one of the barriers for waste management which is high transport cost can be eliminated eliminated.
- Partnership with LOLC Advanced Technologies provides an end-of-pipe treatment solution for flexible packaging. LOLC's loans were restructured for establishing pyrolysis plants. This provides a solution for hard to recycle flexible packaging.
- We aim to bring down advanced recycling technologies such as to Sri Lanka via a partnership between INSEE Ecocycle. The intention is to establish a 250 metric tons per month plant with the capability to recycle HDPE,LDPE, PP, and PS plastics.
- USAID's convening power was able to start the process of establishing a formal body to represent MRF operators in Sri Lanka, which was an identified gap in the market.
- Together with the Ministry of Provincial Councils and Local Government and the Central Environmental Authority, an Assessment Tool for Local Authorities on Solid Waste Management (ATLAS) was developed. Further, over 125 government officers were trained on ATLAS use and its implementation.
- USAID is conducting initial assessments on the feasibility and the material volumes bottle to bottle recycling (rPET). To have a facility of this nature requires a collection between 800 to 1000 metric tons per month, however the current collection is around 400 tons per month. The 20 MRFs that are planned to be in operation would allow to achieve the required monthly collection for a bottle to bottle recycling facility to in operation.

Technical Session 6 cont'd
Collaborations for plastic collection - learning from international development sector

Mr. Asantha Subasinghe
Plastic Expert
SACEP Project

> ***"The main concept of our [PLEASE] project, is to avoid, intercept and redesign."***

- South Asia Cooperative Environment Programme (SACEP) is an inter-governmental organization, established in 1982 by the governments of South Asia to promote and support protection, management and enhancement of the environment in the region.
- Plastic Free Rivers and Seas for South Asia (PLEASE) Project, funded by the World Bank, is the first and largest project of its kind to combat plastic pollution ending up in South Asian rivers and seas.

3 components of the PLEASE Project:

- Component 1: Supporting Competitive Block Grant Investments to Reduce Plastic Waste
  - Includes 12 Regional Block Grants and 15 Innovation Grants.
  - The main features include: Raising awareness on existing solutions, demonstrate approaches to accelerating workable solution short-term results & scalability and complement national efforts. '
  - Sri Lanka has 2 Block Grants titled "Building a Blue Lanka by Uplifting Communities (BLUECAP)" and "Overcoming Barriers, Taking Critical Steps: Advancing Plastic Recycling in Sri Lanka for its Circular Use". These grants are given to Negombo Recycling Club (PVT) Ltd and Island Climate Initiative (Pvt) Ltd, respectively.
  - Sri Lanka also has 2 Innovation Grants given to Chakra Suthra (Private) Limited and INSEE Ecocycle Lanka Private Limited.
- Component 2: Leveraging Public and Private Sector Engagement and Solutions, which includes
  - Support to develop national plastic pollution action plans, policies and industry standards
  - Identify, prioritize, collect and analyze lifecycle data
  - Convening of public and private sector decision-makers to discuss circular plastic economy solutions.
- Component 3: Strengthening Regional Integration Institutions
  - Support construction of SACEP's new headquarters
  - Building capacity of SACEP
- **PLEASE project activities**
  - Plastic collection, Incentivized collection, sorting, transportation is one of the major interventions of the PLEASE Project grants
  - Establish a recycling facility producing Wood-Plastic Composite (WPC) pellets
  - Enabling the segregation and recycling of valuable plastics from mixed waste
  - Deploying 10 smart recycling bins within 10 coastal communities, and
  - On demand home collection system within Gampaha and Puttalam districts

Technical Session 6 cont'd

Collaborations for plastic collection - learning from international development sector

Mr. Lakshan Madurasinghe

Director - Public Affairs, Communications and Sustainability

Coca Cola – Sri Lanka, Maldives, Nepal and Bhutan

"Without partnerships there is really no traction and scale you can achieve."

- The private sector often lacks the seriousness to make impactful changes in sustainability until prompted by policy changes. Ideally, companies should proactively design solutions and collaborate with the government to shape policy.
- Coca-Cola Sri Lanka began its sustainability efforts on a small scale in 2007, later amplifying them in 2017 through the "Give Back Life" program. This initiative, in collaboration with the Central Environmental Authority (CEA) and the Ministry of Environment on Extended Producer Responsibility (EPR), predated the global launch of the "World Without Waste" initiative in 2018.
- A fundamental principle of effective sustainability strategy is tailoring solutions to the local context rather than copying strategies from other countries. In Sri Lanka, one identified gap was the lack of waste disposal bins. Even when consumers want to dispose of products responsibly, the necessary infrastructure was often absent. Coca Cola Sri Lanka did address this by the provision of bins throughout the country. The design and maintenance of these bins were achieved through partnerships.
- Material Recovery Facilities (MRFs) rely on a network of waste collectors, and their success depends on the volume of waste collected. This naturally brings awareness creation into focus.
- Coca-Cola Sri Lanka, in partnership with World Vision Lanka, is enhancing the collection and recycling of PET plastic through the ASPIRE Project. The project aims to strengthen the PET plastic waste collection network, ensuring that collected waste is monitored, accounted for, and sustained.
- Key achievements of Coca Cola Sri Lanka in partnership with World Vision Lanka:
  - 6 resource banks established
  - 65 collectors registered with ASPIRE
  - 25 female collectors registered with ASPIRE
  - 14 mega collectors registered with ASPIRE
  - Established an association for resource collectors
  - Informed & empowered 8500 individuals
- There is a need to encourage participation in waste management, particularly through informal waste collectors. Strengthening the existing base and attracting new participants is crucial. MRFs play a key role by engaging with communities, schools, and universities to educate and raise awareness.
- The government should consider reducing advertising rates to enable the private sector to broadcast waste management messages effectively. The private sector should also collaborate with authorities to ensure these messages reach the masses.
- While progress is being made in PET recycling, more attention is needed for other plastics, such as HDPE, LDPE, PP, and PS. These materials also have recyclable value and should be addressed in sustainability efforts.

Panel discussion

Moderator: Mr. Sanjaya Ariyawansa - Senior Economist
The Ceylon Chamber of Commerce

Panelists:

- Mr. Chathura Malwana
- Dr. Ananda Jayalal
- Mr. Lahiru Wijerathne
- Mr. Anushka Kumarasinghe
- Mr. Amila Sirimanne
- Ms. Niroshani de Silva

- Plastic is undeniably one of humanity's most innovative inventions, offering numerous benefits that have transformed various industries. The issue, however, lies in our behavior and how we have managed plastic waste, turning it into an environmental concern.
- Polyethylene Terephthalate (PET) was introduced to the industry as a sustainable solution. When comparing the energy costs associated with the production and recycling of glass bottles, PET bottles offer significant advantages. The energy required to melt glass, due to its high melting point, is substantially higher than that for PET. Additionally, PET bottles weigh approximately 95% less than glass bottles, leading to much lower transportation costs. These factors are why the industry has largely shifted towards using PET bottles. Moreover, PET is FDA-approved, ensuring its safety for food and beverage packaging.
- Potential Industry Partnerships for Sustainability Initiatives
  - Waste collection
  - Post consumer recycled plastic (PCR). Scale matters a lot in PCR and since Sri Lanka with a 22 million population, we cannot afford to have multiple PCR factories. So industry partnerships is needed.
  - Designs for ultra thin packaging
- Academia can play a crucial role in finding more economical methods for bottle-to-bottle recycling. Currently, setting up a bottle-to-bottle recycling plant is prohibitively expensive, making it less feasible, especially in countries with limited resources like Sri Lanka. By collaborating with academic institutions, the industry can drive research into alternative, cost-effective recycling methods. However, the lack of sufficient infrastructure for research and testing in Sri Lanka presents a significant barrier to this collaboration.
- The Sri Lanka Standards Institute (SLSI) has not yet included standards for recycled PET (rPET) in its regulations, which currently only recognize virgin PET. To foster a more sustainable industry, these regulations need to be updated to include rPET standards. This will not only encourage the use of recycled materials but also ensure that rPET meets the necessary safety and quality requirements. Developing these standards should be a priority for the future, aligning regulatory frameworks with global sustainability trends.
- The Ministry of Environment, with the support from the industry, successfully eliminated the mandatory requirement of shrink wrap on water and beverage bottles, which was previously enforced by SLSI. This collaboration between the private and public sectors is a testament to the effectiveness of joint efforts in reducing the carbon footprint.

Panel discussion cont'd

- For Sri Lanka to achieve meaningful improvements in waste disposal practices, there must be a cultural and attitudinal shift towards sustainability. This transformation can be initiated through targeted awareness sessions with university students. By embedding the values of responsible waste management into the minds of young adults, they are more likely to adopt and practice sustainable habits in their daily lives.
- While PET is primarily used in food packaging, other plastic materials like High-Density Polyethylene (HDPE) and Polypropylene (PP) are widely used in industries that include cosmetics, toys, and bottle caps. These materials also need to be evaluated for their recyclability in Sri Lanka. Given their prevalence, particularly PP in PET bottle caps, any move towards more environmentally friendly approaches must include strategies to address the recycling and management of HDPE and PP.
- When developing SLSI standards for recycled PET (rPET), multitude of factors are considered, including sustainability, economic and social impacts, resource availability, and health and safety concerns. The development process should also take into account international standards where available, ensuring that Sri Lanka's regulations are aligned with global best practices. For instance, if a limit on phthalates is deemed necessary, it should be supported by scientific data.
- It is equally important to have favorable renewable energy policies in place. These policies will provide the necessary support for the industry to grow sustainably, ensuring that recycling processes themselves are powered by clean energy.
- A significant challenge in the recycling sector is the potential for recycled materials to be taxed twice—once when the material is initially purchased and again when it is recycled. This double taxation issue is a major barrier to converting the informal recycling sector into a more organized, efficient system. Addressing this issue requires a clear and comprehensive policy roadmap that outlines how recycled materials will be taxed, ensuring fairness and encouraging greater participation in recycling initiatives.

"This is the time [for us] to rethink about that [rPET] because other developed countries and our neighboring countries have already started and using rPET."

"Collaboration is essential as recycling based on particular brands is a ineffective because in the end we need to reduce the total number of PRT bottles in the environment."

"We need a cultural and attitude change as well [to improve waste disposal]."

"In Sri Lanka 60% of the waste collected is within the Western province, but when you are going out of Western province, the concentration is very low."

Presentations

Click on the following links to access the presentations

- Plastic waste management- Policy maker's perspective (Sri Lanka) - Mr. Chathura Malwan (Link)
- Recyclable PET Packaging for Food – Science, Safety and Regulatory Approval - Mr. Rajendra Dobriyal (Link)
- PET B2B recycling as a pathway to maximise value in food packaging sustainability (Regional Perspective) - Mr. Navneet Chadha (Link)
- Industry Road map towards Sustainable Plastic Packaging (Circularity approach) - Mr. Neeraj Kumar Porwal (Link)
- Industry Road map towards Sustainable Plastic Packaging (Circularity approach) - Ms. Thamari Senanayake (Link)
- Recyclable PET: Science, Safety and Sustainability - Mr. Dario Dainelli (Link)
- Collaborations for plastic collection- Learning from International Development Sector - Ms. Janani Kanapathyraj (Link)
- Collaborations for plastic collection- Learning from International Development Sector- Mr. Roshan Salinda (Link)
- Collaborations for plastic collection- Learning from International Development Sector - Mr. Asantha Subasinghe (Link)
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