

SEC REPORT FINDS POTENTIAL TO CREATE A CIRCULAR PLASTIC ECOSYSTEM IN SINGAPORE

Action needed to improve recycling rates

Singapore, August 30, 2018: There is potential for Singapore to create a new market for recycled plastics, according to a report released today by Singapore Environment Council (SEC). This can be done by taking advantage of available new technology or through innovation to create a downstream market for recycled plastic in Singapore.

SEC's new report, titled "*Consumer Plastic & Plastic Resource Ecosystem in Singapore*", is commissioned jointly with Deloitte & Touche Enterprise Risk Services Pte Ltd. The culmination of an eight-month study, the report includes a survey of 1,003 people in Singapore on their plastic usage habits and attitudes towards recycling.

The report suggests that the creation of a new circular economy for plastics could lead to an improvement in Singapore's plastic recycling rates.

THE BENEFITS OF A NEW ECONOMY FOR PLASTICS

Ms Isabella Huang-Loh, Chairman of SEC said the creation of a new approach to plastics in Singapore would benefit the economy, the environment and Singapore's reputation for innovation.

"We need to connect producers, consumers and downstream users to form a circular economy for plastics so they are collected, recycled and reused to generate other products. This will reduce the pressure on Singapore's waste stream as well as conserve natural resources."

"Singapore has the knowledge and the talent to develop innovative methods to reintroduce recycled plastic into the economy to aid growth and build a circular plastics economy."

“A recycled plastics market will help Singapore address the emerging limitations presented by China’s decision to stop taking much of the world’s recycled waste. It would also advance Singapore’s position as Asia’s innovation hub.”

“Recycled plastics can be used to support the current industries in Singapore including medical and electronics manufacturing as well as transport and precision engineering.”

“At present, our plastic ecosystem is mostly linear which means plastic goes from producers to consumers and to the waste bin,” Ms Huang-Loh said.

ATTITUDES TOWARDS RECYCLING

According to the research, the reason for the low recycling rate includes a lack of public awareness of what can be recycled. The report found 70 per cent of people in Singapore do not fully understand what plastic to recycle. As a result, the majority of plastic products are disposed of as general waste rather than recycled through a circular value chain.

When asked what information would be most useful to their recycling efforts, 45 per cent said they need more information on the different types of plastics and what can and cannot be recycled.

Four in 10 Singapore residents (42 per cent) do not recycle because it is inconvenient. For 21 per cent the inconvenience is bringing items to the recycling bin, for 13 per cent it is separating recyclable items from general waste and for eight per cent it is having to wash, dry and clean plastic items.

Figure 1: Reasons for not recycling

Inconvenient to bring recyclables to recycling bin	21%
Inconvenient to separate recyclables from other waste	13%
Inconvenient to wash, dry and clean recyclables ⁱ	8%
Too few items to recycle	9%
Will re-use it for other purposes instead of recycling	35%
Others	14%
Total	100%

ADDRESSING SINGAPORE’S LOW RECYCLING RATE

Ms Jen Teo, Executive Director of SEC, said insights from the position paper show that recycling remains a challenge for Singapore.

“One way to help individuals improve their recycling habits is to have companies print the recyclability information on their packaging products to facilitate upstream sorting and recycling, making the collection of recyclable plastic items more efficient. This initiative would go together with a new education campaign to teach the public what and how to recycle their plastic waste.”

“We look forward to working with businesses, schools, communities and government agencies in our drive to raise Singapore’s plastics recycling rate. SEC is grateful to have partners that support our work to foster lasting environmental values among people in Singapore,” Ms Teo said.

Mr Mohit Grover from Deloitte Singapore Risk Advisory, said that the research reveals the consumers' consumption behaviour and after-use patterns of plastic items, and reasons for the low recycling rate in Singapore.

“With the in-depth findings of this research, we are in a better position to make informed decisions on mitigating the plastic waste issues in Singapore,” Mr Grover said.

RECOMMENDATIONS

The report provides the following recommendations to help improve Singapore’s plastic ecosystemⁱⁱ:

1. Dedicated Recyclable Collectors

Specialised companies that possess the necessary recycling technology and capabilities to handle recycling should be given the opportunity to operate in Singapore. This could potentially be a good investment opportunity for the government to not only improve the recycling rates in Singapore but also establish an economy for recycled materials.

2. Downstream Recycling Efforts in Singapore

Downstream efforts can supplement upstream efforts to make the recycling system in Singapore more robust. The public-private partnership of waste-to-energy facilities in Singapore can account to include material sorting facilities to divert recycling waste from general waste for incineration.

3. Innovation to Reduce Plastic Packaging Waste

Public sector organisations and NGOs could partner with major packaging waste industries, such as food and beverage and consumer goods, to reduce the plastic packaging of their products.

4. Building a Market for Recycled Plastic through Innovation

To support the upstream and downstream recycling efforts, government and public sector organisations could step-in to support existing markets in Singapore that are using specific types of plastics for manufacturing recycled plastic pellets. Recycled plastic can be used to support the major manufacturing segments in Singapore, particularly the biomedical manufacturing, electronics and general manufacturing industries, to achieve a closed loop circular economy in Singapore.

For example, several start-up companies around the world are devising machines to produce plastic filaments to be used for 3D printing machines. Singapore's plastic waste stream could be directed towards recycling for biomedicine companies for 3D printing. Similarly, recycled plastics can be used for flat-panel displays and ink and toner cartridges for the electronics manufacturing sector, as well as the use of Artificial Intelligence for waste management. Research has also led to the use of pyrolysis technology to convert plastics to oil and fuel.

5. Replace Single-Use Plastic Bags/Rolls with Alternatives and Limit Plastic Bag Usage

Public sector organisations and NGOs could partner with major privately owned supermarkets in Singapore to replace plastic bag rolls for vegetables and fruits with effective alternatives. For instance, reusable bags made from super light, durable ripstop nylon or reusable organic cotton muslin bags act as a good substitute. The same initiative should be taken for bakeries across Singapore where consumers are encouraged to bring their own reusable containers when purchasing bread.

6. Legislation and Policy Measures

Legislation might be required to increase the recycling rate from 6 per cent. To do so, a multi-prong approach could be required, such as implementing the mandatory reporting and

declaration of packaging waste reducing framework in Singapore. Similarly, a policy with a focus on stepwise reduction of single-use plastics, such as the small plastic bags obtained at bakeries, plastic packaging of vegetables and fruits at supermarkets and plastic bag rolls to collect and weigh the fruits and vegetables. Mandating compulsory recycling at commercial entities may also improve the recycling rates in Singapore.

The Government of Singapore has announced that companies would be subject to mandatory reporting of packaging data and waste reduction plans by 2020. Mandating companies to print the recyclability information of their packaging products (such as resin number in PET bottles) would facilitate upstream sorting and recycling and is also necessary to ensure efficient collection of recyclables. This initiative, coupled with the campaign on creating awareness of the types of plastics that can be recycled, would target both upstream and downstream actors in the plastic ecosystem.

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ABOUT THE SINGAPORE ENVIRONMENT COUNCIL

Established in 1995, the Singapore Environment Council (SEC) is an independently managed, non-profit and non-governmental organisation (NGO). As Singapore's first United Nations Environment Programme (UNEP)-accredited environmental NGO, we influence thinking of sustainability issues and coordinate environmental efforts in the nation.

We are also an approved charity and offer tax exemption to donors. SEC continuously engages all sectors of the community by formulating and executing a range of holistic programmes, such as the Singapore Environmental Achievement Awards, Asian Environmental Journalism Awards, School Green Awards, Singapore Green Labelling Scheme, Project: Eco-Office, Project: Eco-Shop and Project: Eco-F&B. In addition, we build a pool of committed volunteers under our Earth Helpers programme. Our Training and Education arm provides the people, public and private sectors with the opportunity to develop awareness, knowledge, skills and tools in order to protect and improve our environment for a sustainable future.

Strong partnerships with corporations, government agencies and other NGOs are valued by us. These partnerships are vital for sustaining our programmes, leading to positive action and change. Over the years, SEC has given strength and direction to the environmental movement in Singapore.

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新加坡环境理事会简介

新加坡环境理事会 (SEC)，成立于 1995 年，是非政府组织 (NGO)，也是非盈利机构。我们致力于推广新加坡可持续发展项目同时协调环境改善事务。在 2018 年，新加坡环境理事会被联合国环境规划署授予认证。

我们是一个获得认可的慈善机构，捐赠者可享受税务优惠。通过举办一系列整体项目如新加坡环境成就奖 (Singapore Environmental Achievement Awards)、亚洲环境新闻奖 (Asian Environmental Journalism Awards)、SEC-星和校园绿化奖 (SEC-StarHub School Green Awards)、新加坡绿色标签计划 (Singapore Green Labelling Scheme)、绿化办公室计划 (Project: Eco-Office)、绿化商店计划 (Project: Eco-Shop) 和绿化餐饮计划 (Project: Eco-F&B)，新加坡环境理事会持续在社会各个领域发挥作用。

通过志愿环保战士 (Earth Helpers) 项目新加坡环境理事会组织了一支队伍协助和改善环境。我们的培训与教学部门旨在提高人民、政府部门及社会各领域的环保意识，知识与技能，并提供相关教材。多年以来，新加坡环境理事会一直支持并引导着新加坡的环保运动，通过与企业、政府机构和其他非政府组织建立密切的合作关系以更积极的行动达成改善环境的远景，这对于我们项目的可持续发展是至关重要的。

ⁱ See page 35 of the report “Consumer Plastic & Plastic Resource Ecosystem in Singapore” - 21.64% of respondents nominated ‘Other’ reasons for not recycling. Of these 35.93% said it was ‘Inconvenient to wash, dry and clean recyclables’, which equates to 7.77% of the total respondents.

ⁱⁱ Please see the report “Consumer Plastic & Plastic Resource Ecosystem in Singapore” for a full list of the recommendations.