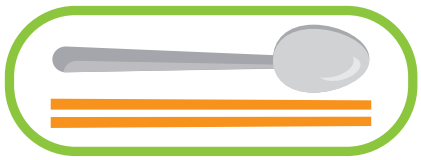
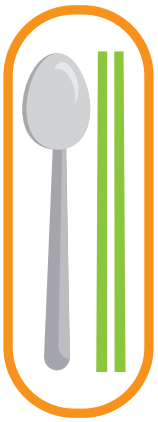
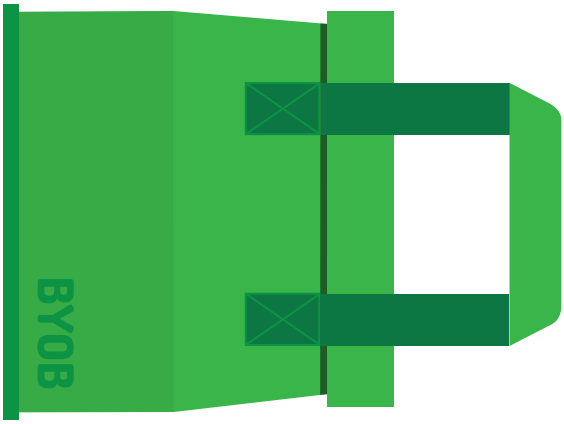


EAT WITHOUT WASTE

HONG KONG'S TAKEOUT PACKAGING CHALLENGE

EXECUTIVE SUMMARY





免廢外賣

Eat Without Waste

FOREWORD

Witness the daily waves of people streaming out of their offices for lunch, to return minutes later with a plastic bag containing a polystyrene lunch box, covered drink cup, chopsticks, stirrer, and plastic sauce pot. Fifteen minutes later, bags are neatly tied to ensure leftovers do not spill out. Whisked away by cleaners, compactor trucks collect and deposit the contaminated packaging into landfills where they will stay forever. Poorly disposed along the road and raided by wildlife, food packaging also finds its way into our seas. 'Drink Without Waste' was initiated to address beverage containers. 'Eat Without Waste' is to address the madness of one-off tableware. The solutions are clear. Making it convenient is the challenge.

Paul Zimmerman
Designing Hong Kong
Drink Without Waste

Eating without waste was the norm during my childhood. I recall my grandma liking to order takeaway wonton noodles whenever she played mah-jong at home. Several bowls of hot noodles kept in ceramics would be delivered by a man using a metal carrier. I was tasked with gathering the empty bowls and used chopsticks, ready for collection later that night or the following day.

Today, huge amounts of single-use tableware and cutlery cause public rubbish bins to overflow. They litter our beaches and are carelessly tossed along hiking trails.

Eco-friendly reuse practices seem to be forgotten by most people as well as the catering industry. However, by adopting the reuse approach, we can rid the city of hundreds of tonnes of takeaway debris every day, and prevent them from harming the ecosystem.

This report will tell you more about the harm brought about by our deep addiction to single-use tableware, and outlines how we can change course.

Edwin Lau, MH
Founder and Executive Director
The Green Earth

EXECUTIVE SUMMARY

Introduction

Hong Kong's prolific use of disposable foodservice packaging is tied to its character as a densely populated city with a culture of convenience.

An estimated 3.9 billion such items were used and discarded by Hong Kong consumers in 2019, even before the onset of the COVID-19 pandemic. Since then, takeout habits have only proliferated, with many market estimates suggesting that consumption patterns will continue. The associated packaging has a detrimental effect on our environment: overflowing landfills, litter on our streets and beaches, and resource wastage.

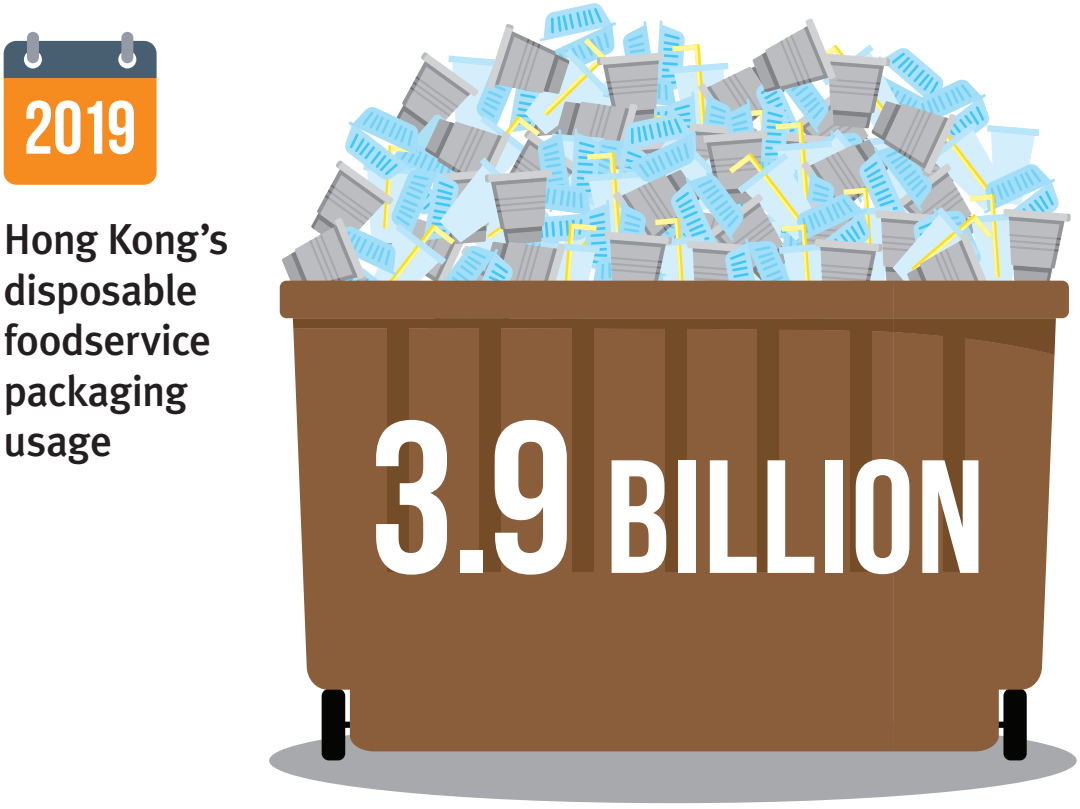
Addressing this unnecessary scourge calls for a deep understanding along three dimensions:

Baseline. A detailed understanding of the current situation and its causes.

Solutions. A critical analysis of the various solutions in operation or under development in Hong Kong and around the world.

Full potential. The formulation of viable pathways that cater to Hong Kong's specific needs to maximise landfill diversion.

To kickstart effective policy interventions and broad stakeholder engagement, ADM Capital Foundation (ADMCF) undertook extensive research along these three axes. The analysis focused on lidded disposable food containers and to-go drink cups — hereon referred to as single-use foodservice packaging (SFP). Many of the resulting recommendations, however, are also valid for other single-use items related to foodservice, such as straws, stirrers, cutlery, chopsticks, and the plastic or paper bags used to carry takeout meals.



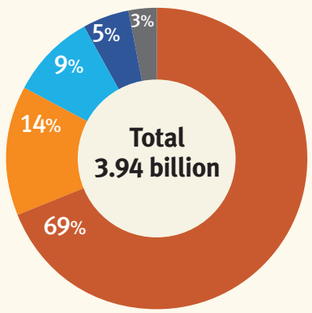
Analytical process and findings

What we established	BASELINE	SOLUTIONS - feasibility - cost - impact	FULL POTENTIAL
How we did it	• A baseline of single-use foodservice packaging (SFP) usage in Hong Kong was derived from data on local consumption patterns prior to the COVID-19 pandemic. • It also includes a projection to 2030 to form an estimate of future SFP consumption patterns.	• Four main solution archetypes along the circular economy spectrum were identified: Recycling, Bringing your own container (BYO), Composting, and Reuse systems. • Each archetype was evaluated for a suite of environmental, economic, and social metrics: water usage, greenhouse gas emissions, financial costs, the technical performance of the container, and implementation efforts for involved stakeholders.	• The set of container types/applications for which each solution can be deployed (e.g., cold drink cups) and the relative market size of that container type/application were then used to scale up solutions and determine each solution's full landfill diversion potential. • This 2030 potential was determined under three different implementation scenarios, driven by Hong Kong's ability to mobilise the relevant stakeholders.

Under each implementation scenario, **BYO** and **Recycling** are projected to deliver the strongest outcomes. The **Reuse** opportunity is smaller but, under the conditions of an Advanced Mobilisation (AM) scenario, could nevertheless reduce up to one-third of Hong Kong's projected SFP use. **Composting** cannot keep containers out of landfills unless composting infrastructure is in place or existing, and planned anaerobic digestion infrastructure is modified, and therefore would not contribute under a Limited (LM) or Moderate Mobilisation (MM) scenario until these investments are made. Under an AM scenario, however, where collection and processing infrastructure is in place, we project that the Composting solution could potentially keep half of Hong Kong's SFP containers out of its landfills.

What we found

Number of single-use food and drink containers used in Hong Kong
(2019 estimate, pre-COVID-19 pandemic)



Summary of solution feasibility and environmental impact under 2030 advanced mobilisation scenario

Solution pathway	Feasibility: Technical limitations	Feasibility: Effort to implement
Recycle	100%	76%
BYO	90%	80%
Compost	90%	55%
Reuse	80%	39%

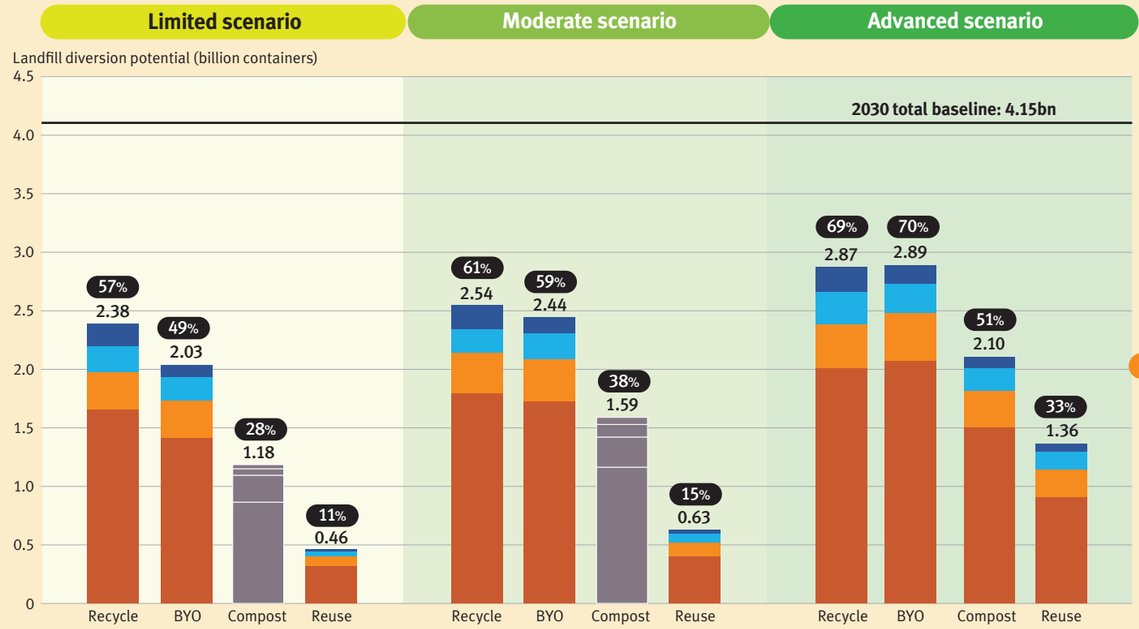
less feasible (0%) — more feasible (100%)

Solution pathway	Cost and Environmental Impacts: Affordable	Greenhouse gas emissions	Water usage
Recycle			
BYO			
Compost			
Reuse			

lowest cost/ impact — highest cost/ impact

Each column breaks down the results of prior analyses on the relative feasibility, cost, and environmental impacts of each solution under an advanced mobilisation scenario

Total solution impact in Hong Kong under three modelled scenarios*



* The composting solution is shown in grey under the limited and moderate scenario, where no adjustment or construction of industrial organics processing facilities in Hong Kong is assumed, and hence its diversion impact is only theoretical.

Limited Mobilisation (LM)	Moderate Mobilisation (MM)	Advanced Mobilisation (AM)
Represents a degree of social and behavioural change due to a higher awareness of environmental challenges and possible responses. This scenario assumes no evolution in policy or system-level investment.	Refers to a medium level of effort and investment through the different solution types. This may take shape in the form of increased public education on SFP waste generation from takeout and delivery meals, small-scale incentivisation to encourage the use of reusable containers, or the optimisation of alternative waste collection streams (e.g., plastics recycling).	Represents a major commitment by both Government and private institutions to invest in relevant policy, education, and infrastructure to shift away from sending SFP to landfills. This could involve steps such as banning certain SFP packaging materials (e.g., EPS) or constructing and operating an industrial composting facility.

The time is right

Over the summer of 2021, the Hong Kong SAR Government conducted a public consultation on regulating SFP use (Regulation of Disposable Plastic Tableware, RDPT). Based on a 2019 commissioned consultancy report, the consultation document proposes:

(a) a full ban on the sale of SFPs made of expanded polystyrene (EPS) by 2025;
(b) a ban on all plastic SFP use for dining in by 2025;
(c) a ban on the provision of straws, stirrers, forks, knives, spoons, and plates for takeout by 2025; and
(d) expanding the all-plastic-SFP ban to cover takeout as well, after an evaluation period.

Rather than considering the problem solved now that regulatory action is underway, ADMCF instead compared its research findings findings to the key elements of the government proposal. Our analysis offers three essential complements to the policy proposal:

- Firstly, any policy should address all forms of takeout packaging, not only plastic.

- Secondly, a ban as broad as the one proposed by the Environmental Protection Department (EPD) may not be the best or the only tool to drastically bring down the quantity of takeout packaging sent to landfills.

- Thirdly, the timeline needs to be more nuanced than what is currently proposed.

These three elements are further elaborated in the next section.

Recommendations

Based on our analysis and taking reference to the current policy proposal, we can summarise our recommendations as follows:

Tackle all single-use foodservice packaging, not just plastics. Use a portfolio of tools. Start now.

Tackle all single-use foodservice packaging

The Government's RDPT proposals primarily aim to shift the food and beverage (F&B) sector away from plastics. This raises multiple concerns.

Trying to eliminate just one type of SFP will inevitably cause a shift to other SFPs. As a result, the contribution made to the landfill diversion goals set out in the Government's latest Waste Blueprint may be limited. For example, without collection and processing infrastructure in place, the use of plant-based materials, could reduce our reliance on fossil resources, but this solution would not contribute to keeping containers out of landfills.

Littering will also not be addressed, since that behaviour will not lessen for other materials. On the contrary, materials deemed 'natural' and biodegradable may mislead consumers to think they can be left behind in parks and on beaches without further consequences.

This is linked to another concern. No SFP type is without environmental impacts. Throughout the supply chain, resources are always required and strong demands on performance may be met through undesirable solutions, such as thin plastic layers or PFAS chemicals. Moreover, F&B operators and their suppliers might shift to even less sustainable solutions, such as paper foil bags. These bags are resource-intensive to manufacture, and there is no technology currently available to recycle them.

Government policy, as well as initiatives of F&B operators and NGOs, should focus on all single-use foodservice packaging rather than just those made of plastics.

Use a portfolio of tools

We investigated recycling single-use containers (Recycling), bringing one's own containers (BYO), composting single-use containers (Composting), and creating a — more or less — centralised reuse system (Reuse). Our analysis shows that Hong Kong and its F&B operators will have to tap into more than one solution to reach the best waste reduction outcome, as no one solution can single-handedly cover all of the cups and containers in scope.

In all scenarios, the Recycling and BYO archetypes show the most promise. Since these solutions are applicable and accessible to a large segment of the Hong Kong market, they have the potential to keep the largest amount of SFP out of landfills with limited environmental impacts. Importantly, both solutions can be dialled up and down relatively easily. This means that they can be encouraged and stimulated for the containers on today's market, without creating a barrier to a future implementation of more complex solutions like Composting or Reuse.

While Reuse systems show the highest potential from an environmental impact perspective, the solution is hindered by its comparatively high cost and logistical demands that make it feasible for only certain segments of the Hong Kong market. Because of its very strong environmental performance, there is value in identifying the locations and configurations where the Reuse solution could be more readily implemented.

Compostable containers are, at present, an unsuitable solution given the lack of infrastructure that can break down this type of waste in Hong Kong. Even if such infrastructure were to be established in the future, compostable containers still produce the most greenhouse gas emissions (per use) compared to other solution types. But with the right collection and processing infrastructure in place and if scaled up, Composting could displace a large share of SFP volumes.

Since hot food containers make up the large majority of single-use foodservice packaging on the Hong Kong market, applying solutions to address this segment offers a stronger potential impact than addressing hot/cold beverage containers or cold food containers. Therefore, to maximise the number of containers that can be kept from landfills, our analysis shows that applying Recycling and BYO containers to address hot food containers offers the most optimal solution/segment combination.

This diversified approach needs to be reflected in Government policies. Policy support is critical because no environmentally beneficial solution archetype can fully compete with SFP usage in terms of cost and convenience. The Government's proposed ban — while administratively efficient — cannot be the sole tool for dealing with Hong Kong's SFP challenges.

Education and engagement with consumers and hospitality stakeholders, incentives for reusable container usage, regulation of harmful packaging materials, and investments in waste management infrastructure need to be part of the policy agenda. Moreover, firm decisions on the infrastructure trajectory must be made soon if Composting and Reuse are to play a meaningful role in the future.

Start now

Hong Kong should not wait for a hard-hitting piece of legislation that will take time to build consensus around. The work to keep SFP waste out of landfills must start today — this is both necessary and possible.

It is necessary

Hong Kong is drowning in waste from takeout meals and drinks. Hongkongers are some of the region's highest spenders on prepared food and eating out, and also have a strong propensity towards takeout meals. Takeout habits only intensified with the onset of COVID-19, with some Hong Kong hospitality groups and delivery platforms experiencing up to 50% more takeout orders in 2020, the first year of lockdowns and restrictions. Takeout and delivered meals are more packaging-intense than dine-in meals, but many meals consumed on-site are also served in disposable packaging.

It could be argued that, in terms of weight, plastic and other single-use foodservice items make only a relatively small contribution to Hong Kong's massive per capita waste. This is, however, due to their density, which is very low in comparison to the much denser food waste that dominates Hong Kong's municipal solid waste.

Moreover, these items are persistent in the litter that plagues Hong Kong's streets, beaches, and country parks. In addition to the potential damage to land and sea animals, ecosystems and landscapes, SFP littering results in direct and indirect costs to society.

Recent research has shown that delaying intervention by even five years is not an option if we are to reach a global goal of near-zero leakage of waste into the environment. Hong Kong needs to do its part and make addressing its single-use foodservice packaging challenge a priority.

It is possible

The Government's proposed RDPT timeline is for a full EPS and plastic ban to be implemented by 2025. This timeline is suitable for addressing certain elements of the proposed scope, such as EPS containers or most dine-in uses. However, the afforded time for a full-scale ban may not be sufficient to develop sustainable, affordable, and functional alternatives — materials and systems — to the plastic containers currently on the market. Without such alternatives, F&B operators may feel compelled to switch to suboptimal solutions that inadvertently enhance the city's waste issue in different ways.

On the other hand, the volume of single-use foodservice items going to landfills could already be meaningfully reduced before 2025 if, for example, broad outreach and support for Recycling were to be initiated right away. Similarly, individual F&B operators or their property managers could be educated on the benefits and feasibility of BYO and Reuse to complement their current single-use practices. The timeline for an all-inclusive, abrupt regulatory tool like the proposed RDPT ban must include more considerations surrounding what can and cannot be implemented with desirable outcomes.

Outlook

This research sets the stage to drive further change and move beyond small-scale and incremental initiatives — both through action on the ground and in the form of high-level policies. To achieve a systemic shift towards truly sustainable takeout packaging solutions, the Eat Without Waste initiative will continue to foster communication and mobilisation across these stakeholders through both structured and ad-hoc interventions. We hope you will join us on our path to Eating Without Waste.


BYOB
BYOB
BYOB