Single-Use Plastics (SUP) in Aviation:
The Case for Harmonized Regulations

1. Background

The inappropriate disposal of single-use plastics (SUP) and its impact on the marine environment is a key challenge for our society. Although SUP is widely used in aviation due to its strength, lightness and hygienic properties, voluntary action by airlines has demonstrated that the sector is keen to replace these products with more sustainable alternatives. However, international airlines are facing challenges with differing SUP regulations being implemented at airport, regional and national levels. Asymmetric SUP regulations will result in differing alternative products being introduced on separate legs of a journey, confusing passengers and crew, increasing compliance costs and generating more waste. Environmental regulators must also appreciate that certain SUP products in aviation are mandated by civil aviation and public health authorities. This has been demonstrated in response to the pandemic with requirements that airlines provide pre-packaged and sealed food and drink and passengers required to wear disposable SUP masks.

2. Objective

SUP regulations are being proposed and adopted at an accelerating rate, making the compliance challenge for airlines more daunting. At a national level these regulations apply across all sectors and are not specific to aviation. However, airports are also beginning to implement and enforce their own SUP restrictions. The aim of this document is to provide guidance for environmental authorities on the development and adoption of a harmonized national SUP replacement strategy for aviation. Whilst airlines are supportive of a move to more sustainable inflight products, it is essential that the sector follows a cohesive and phased SUP replacement plan based on standard scope, definitions and exemptions which recognises the sectors environmental, safety, security and hygiene characteristics.

It is recognised that financial and product availability aspects will be important criteria as the market for SUP products shrinks in the future. Airline SUP strategy will also be driven by the concerns of passengers and customers and the return to SUP (pre-packaged meals and drinks, masks, etc) driven by the pandemic may be seen in the short term as a regrettable necessity.

3. SUP and Cabin Waste Regulations

Over 127 countries are now regulating the use of plastic bags, with 27 extending bans to include additional SUP products including plates, cups, straws and materials such as polystyrene. The 27 Member States of the European Union will transpose the Single Use Plastics (SUP) Directive into national legislation by May 2021, with bans on certain SUP products commencing in July 2021. There is no global consistency in the restrictions being imposed by these regulations with some being applied to manufacturers and importers and others being placed on consumers. Although these regulations are aimed at reducing marine litter, they do not recognise that alternatives to SUP

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in aviation must meet strict safety and hygiene requirements and ensure that their introduction
does not displace pollution from the marine environment to the atmosphere.

In addition, it would appear that regulators have failed to introduce a consistent definition of a
“single-use plastic” and/or acceptable alternatives. Countries have introduced a wide-variety of
differing product restrictions including plastic bags (minimum thickness); PET drinking water bottle
(minimum volumes); paper cups lined with plastic polymers; and requiring replacement with
alternative products that are bio-based, biodegradable, and/or compostable.

This lack of consistency is particularly challenging for international airlines that can fly up to 120
different countries. Airlines have long supply chains and purchase inflight products in bulk, often
pre-positioning branded products at outstations for the return journey. Airlines are likely to be
procuring alternatives to SUP now that will not comply with other regulators’ restrictions.

Given the emotive nature of the SUP challenge, it is clear that consumers may be tempted to
demand plastic-free products and regulators, in turn, introduce bans and restrictions without
considering any potential environmental, hygiene or safety benefits associated with their use nor
providing a clear and consistent enforcement approach.

Cabin wastes are subject to national regulations that ensure they are handled, stored and disposed
appropriately with many countries introducing specific regulations on cabin waste from
international flights based on agricultural concerns. Although these strict controls minimise the
potential for SUP products from cabin waste ending up in the marine environment, they also
preclude the reuse and recycling of inflight materials.

4. Pandemic Implications

The International Civil Aviation Organization Council’s Aviation Recovery Task Force
(CART) guidance\(^2\) recommends that airlines serve pre-packaged and sealed food and drink in
response to the COVID19 pandemic. Some civil aviation authorities (CAA’s) have gone further,
recommending that drinks are served in disposable containers; biohazardous waste is collected in
medical waste bags; and, passengers are offered bottles of hand sanitizers/wipes. The current lack
of suitable alternative materials means that SUP products have been re-introduced to meet these
recommendations.

In response to these challenges, the CART guidance on hazardous waste\(^3\) also recommends that
“States should consider relieving the ban on single use plastics to permit their use by airports and
civil aviation authorities for medical, hygiene and safety purposes during the pandemic.”

Many airlines have also reported stockpiles of unused SUP products due to the downturn in travel.
Whilst airlines are keen to replace these SUP products, regulators should support the use of these
stockpiled items, even if this extends beyond restriction deadlines. It could be argued that the
disposal of unused SUP products makes no environmental nor financial sense.

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\(^2\) https://www.icao.int/covid/cart/Pages/Aircraft-Module---Passenger-and-Crew-%E2%80%93-General.aspx

\(^3\) https://www.icao.int/covid/cart/Pages/Aircraft-Module---Hazardous-Waste.aspx
5. Scope

Airlines utilise SUP products as part of a service offering to passengers (inflight meals, drinks, toiletries bags, etc.). The scope of the national SUP regulations needs to be defined for aviation to avoid confusion and potential sovereignty issues.

The following scope is recommended:

- Airlines would not use banned SUP products on flights departing from airports with restrictions in place.
- Airlines would be allowed to offload cabin waste containing banned SUP products at airports with restrictions in place.
- International overflights are excluded from the national SUP bans/restrictions.
- Airlines and service providers such as catering companies will not procure banned SUP items but may drawdown on stocks purchased or supplied prior to the SUP bans becoming effective.
- Crew members and international passengers would not be subject to SUP bans/restrictions. However, it is suggested that an educational awareness campaign is initiated to encourage waste minimization, re-use and recycling.
- Airports will accept pre-sorted, non-contaminated SUP items at airport waste reception facilities for recycling.
- Airports and local authorities will support the introduction of alternative biobased products by ensuring that suitable biotreatment facilities are available for offloaded waste (rather than being landfilled or incinerated).

6. Definitions & Exemptions

In the absence of national definitions, the following seem appropriate:

Single Use Plastic (SUP): "means a product that is made wholly or partly from plastic and that is not conceived, designed or placed on the market to accomplish, within its live span, multiple trips or rotations by being returned to a producer for refill or re-used for the same purpose for which it was conceived"[^4]

Biodegradable plastic: "means a plastic capable of undergoing physical, biological decomposition, such that it ultimately decomposes into carbon dioxide (CO₂), biomass and water, and is, in accordance with European standards for packaging, recoverable through composting and anaerobic digestion"[^5]

### Items excluded from SUP restrictions/bans

<table>
<thead>
<tr>
<th>Items excluded from SUP restrictions/bans</th>
<th>Reasoning</th>
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</thead>
<tbody>
<tr>
<td>Medical items including: syringes, vials, plaster and wound dressings, personal protective equipment including disposable gloves and masks, gowns, sterilizing wipes, sanitizer bottles and their associated packaging.</td>
<td>• Ensure health and safety of crew and passengers</td>
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<tr>
<td>Life-saving and firefighting appliances and other statutory items including life-vests</td>
<td>• Ensure health and safety of crew and passengers</td>
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<tr>
<td>Aviation security items including Security Tamper Evident Bags (STEBS) and Liquid and Gels (LAG) bags</td>
<td>• Security</td>
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<tr>
<td>PET/PETE drink bottles (greater than 300ml). PET bottles uploaded at overseas airports are exempt from the need to display domestic Extended Producer Responsibility (EPR) labels</td>
<td>• Minimize the back flying of recyclable bottles on international flights • Encourage recycling • Minimize the double-loading of water bottles</td>
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<tr>
<td>Food hygiene items including cling wrap, lids, and dairy sachets</td>
<td>• Health and Safety • Prevents food waste</td>
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<tr>
<td>Non-biodegradable multi-layered packaging comprising layers of paper and plastic (e.g. juice/tetra pack cartons)</td>
<td>• Health and Safety • Prevents food waste • Limited sustainable alternatives with a similar weight</td>
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<tr>
<td>Washroom, static bin, cabin cleaning and biohazardous waste bags</td>
<td>• Need to be durable and prevent spills for safety (avoiding slips and potential corrosion of the airframe)</td>
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<tr>
<td>Protective plastic sheeting/wrapping for cargo shipments</td>
<td>• Protect cargo shipments from damage or weather</td>
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<td>Labeling and marking: consistent with the requirements of national legislation in the country of purchase including language</td>
<td>• Minimizing the purchasing of multiple alternative products based on differing regulatory requirements • Avoiding passenger and crew confusion</td>
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It is proposed that these exemptions are confirmed by national CAA’s and environmental authorities prior to airlines initiating any further action.

### 7. Phased SUP Replacement Plan

This section outlines the suggested phased SUP replacement plan to be adopted by airlines with the support of the national environmental authority. It is assumed that domestic flights that are supplied from domestic contractors and/or service providers will comply with national SUP regulations. Hence, the focus of the airline implementation plan should be based on the analysis of SUP carried on inbound international flights and SUP products that have been prepositioned at domestic catering establishments for use on the international return leg.

The following airline activities are proposed:

#### 7.1 Inventory of stored **banned** SUP products in domestic facilities; assessment of how long it will take to draw down banned SUP products and replace them with sustainable alternatives; and, establish procurement timelines and budget. It should be noted that COVID-19 has had a significant impact on flight operations and hence stock depletion, which means that the timeline for draw-down may need to be extended.

#### 7.2 Inventory of loaded **banned** SUP products on inbound flights; assessment of whether there are sustainable alternatives on the market; and, establish procurement timelines and budget. The banned SUP products maybe
classified in terms of their practicability of replacement from straightforward (Phase 1 replacement) to challenging (Phase 3 replacement).

7.3 Seek approval from CAA and national environmental authorities regarding the timelines for the replacement of banned SUP products, that takes into account the long lead times needed to source, procure and distribute alternative inflight products and the increased in SUP packaging necessitated during the COVID pandemic.

An example from the proposed SUP replacement plan for India (Ministry of Civil Aviation – MoCA) is provided below.

<table>
<thead>
<tr>
<th>Month</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEPT</th>
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<th>NOV</th>
<th>DEC</th>
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<tr>
<td>Approval of MoCA SUP Guidance</td>
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<td>Airline Inventory of SUP stored in India</td>
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<tr>
<td>Airline Inventory of SUP loaded on inbound flights</td>
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<td>Accelerated use of stored SUP products (identified in 2)</td>
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<td>Replacement of banned Phase 1 SUP Products (straws and stirrers)</td>
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<td>Replacement of banned Phase 2 SUP Products (crockery and cutlery)</td>
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<td>Replacement of banned Phase 3 SUP Products (cups and plastic film)</td>
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<tr>
<td>Consultation with MoCA and Ministry of Environment, Forest and Climate Change (conduct LCA on SUP products)</td>
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<tr>
<td>Consultation with Airports Authority of India on development of cabin waste recycling &amp; biotreatment facilities</td>
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8. Communications

The national CAA, environmental authorities, airlines and other aviation stakeholders including airports could initiate a joint communications campaign informing passengers of the plans for replacing SUP in aviation, noting those items that need to be retained for security or hygiene purposes. The campaign could outline how SUP replacement contributes to the circular economy and the waste management hierarchy, promoting prevention as the top priority followed by re-use, recycling, recovery and finally, the least desirable, disposal.

9. Research and Development

The national CAA and environmental authorities could support research and development (R&D) to identify and promote alternative sustainable materials for aviation (taking into account the products' environmental characteristics, affordability, hygiene, food safety, the weight and space it takes up on board and options for end-of-life processing), enhanced recycling systems and biotreatment options; risk-based international catering waste (ICW) regulations; and adoption of standard lifecycle assessment (LCA) methodologies to ensure that substitutes do not inadvertently result in higher environmental impact.

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https://ec.europa.eu/environment/waste/framework/
Further Information

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