

Tackling sustainability in the airline industry

Insights from the experts on future challenges and
how they can be overcome

In partnership with



About this report

Airlines are fighting to be more sustainable in every area of their business. Their biggest sustainability challenge is to eliminate food and packaging waste, and 'lightweight' aircraft as part of their battle to reduce fuel use and in turn CO2 emissions.

A comprehensive article published on the **World Travel Catering & Onboard Services (WTCE) Hub** last year highlighted the extent of the issue that airlines and their suppliers face, detailing that in 2017 a quarter of the 5.7 million tonnes of cabin waste was untouched food and beverages.

At the same time, IATA estimates that around \$3.9 billion worth of catering waste is incinerated or sent to landfill. Pre-pandemic it stresses that passenger concerns regarding airline waste practices were mounting and increasingly challenged with embracing the circular economy.

This report, produced in association with Foodcase International, offers a snapshot of airline and supplier partner views about the challenges they face and how they might tackle them. They were each asked five key questions centred on the sustainability of airline catering operations.



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Foreword

By Matt Crane
Founder, Aviation Sustainability Forum

Throughout my working life I have been intrigued by the problem of trying to understand the impact of the commercial activities of my place of work on the environment.

As sustainability has grown in importance for all business, I watched on as more aviation suppliers, caterers and airlines sought to introduce sustainable inflight solutions. On the surface it looked like aviation was going in the right direction but digging deeper it became clear that true 'life cycle analysis' evaluation of some of the alternatives being used was not in place and more alarmingly International Cabin Waste regulation was increasingly requiring all international waste to be incinerated or sent to landfill.

This report reconfirms that we all know we need to do something and there are links in the supply chain that each stakeholder can influence by themselves. It's good to hear about efforts to reduce waste and remove single use plastics but this is really the tip of the iceberg. To effect real, significant change we need to all come together as an industry - the problem is too big and too complex to grapple with alone.

In 2019, a group of suppliers, caterers, airlines and airports together with climate change academics spent 2 days talking about the problem of the equivalent of 200 747's of inflight waste going to incineration or landfill every year. We quickly realised that we had to stop sustainability being used for

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competitive advantage and work together to solve the problem through collaborative advantage. From this the ASF (Aviation Sustainability Forum) was born.

The ASF works independently as a 'not for profit' collaborative forum. We do not represent one group in the Inflight product and services supply chain but bring all groups together - suppliers-caterers-airlines-airports-associations and governing bodies - to share knowledge, best practice, ideas and problems, with the aim of developing standard solutions that can be adopted by the entire commercial aviation sector. By working together in this way and standardising the materials we use onboard we can then support and present the case required for legislative change that allows recovery, recycling and circularity to be adopted internationally thereby improving aviation's environmental record globally.

We are a small team with a big mission. The most important benefit to us, is to gain the support of representatives of the entire aviation community. If you are a stakeholder in inflight product and service at any point of the supply chain - this work needs your involvement and commitment.

It's great that there is such focus on sustainability across our industry - now really is the time to mobilise and harness all the efforts being made. ASF is a willing facilitator ready to act.

Join our Journey.



The Airlines' View

When it comes to the number one issue that carriers face, each airline gave a broadly different answer. This underlines not only the immediate challenge they face, but also the wider complexities of creating a truly sustainable operation.

Icelandair

Having the correct standard (quantity of each product) on board, both with regards to fresh food items (food waste), but also dry goods (to minimise too heavy stock)

AirAsia

Cost and taste profile remain the biggest challenges due to the nature of our business

Cathy Pacific Catering Services

Single-use plastic and modern slavery

Scandinavian Airlines (SAS)

Sustainable packaging

Transavia

Recyclable options based on new EU Cat 1 legislation towards the circular economy and environment

When it comes to ranking onboard food waste reduction, onboard packaging waste reduction, lightweighting of food and beverages and more efficient bar/trolley packing in order of importance, airlines were equally split between reducing packaging waste and reducing food waste as the most important issues to them

But that's not to ignore the other three issues.

Ranked in order of importance

	REDUCING FOOD WASTE	REDUCING PACKAGING WASTE	LIGHTWEIGHTING FOOD & BEVERAGES	MORE EFFICIENT BAR/TROLLEY PACKING
Icelandair	1	3	2	3
AirAsia	1	4	2	3
Cathy Pacific Catering Services	2	1	4	3
Scandinavian Airlines (SAS)	2	1	3	4
Transavia	2	1	3	4

Where scores are identical, airlines rank the topics with equal importance

Food or packaging waste?

When asked to choose between reducing food or packaging waste as their priority, the feedback varied, however, cost clearly is part of the equation.

Said Icelandair's Groenewegen: "I would say reducing food waste, as it has more impact on sustainability and cost at the same time. Also, if control of the fresh food ratio is in balance, you also use the correct amount of food packaging."

AirAsia's Goh also cited cost: "Reducing food waste onboard. As a LCC (low-cost carrier), profitability remains the key KPI, especially during the Covid recovery period. Our focus is to reduce food waste cost, while maximising the revenue opportunity."

At Cathay Pacific Catering Services, the focus is firmly on "reducing unsustainable food packaging on board", said Tang.

And at SAS, Naumann also cited reducing unsustainable packaging as first choice, also explaining why: "We already have good systems in place to reduce food waste, such as load optimisation. We also have a good idea of how to improve even more, and it's something we can do ourselves. However, when it comes to packaging, we are much more reliant on our suppliers and what is available on the market."

Transavia's Schotvanger said "reducing waste and being smart on packaging (recyclable)" were equally important.

How can suppliers help?

The airlines were also asked what suppliers can do to help them meet sustainability targets.

Said Icelandair's Groenewegen: "When it comes to food waste on board, good quality, ambient products do help, especially if you have a buy-on-board concept. A mix of fresh and ambient is key. Also, products packaged with a single material, so it's possible to sort them, i.e paper or plastics."

Maintaining safety and quality alongside cost reduction are key issues for AirAsia's Goh. She said: "Automation at catering facilities to reduce human handling of food, and to maintain taste consistency. Also, another look into the cost structure to reduce food costs."

For Cathay Pacific Catering Services' Tang, it's all about reducing food waste and packaging. She said suppliers need to "reduce single-use plastic packaging and to develop smaller portion sizes and portioned packs".

SAS's Naumann said Scandinavian wanted suppliers to "work with sustainable packaging and work to reduce transport and lower CO2 emissions."

Schotvanger at Transavia said the airlines would like suppliers to "share knowledge of the type of packaging" they use, and how they can work with the airline to improve the supply chain... "what can we do smarter in the total chain?"

When it comes to food waste on board, good quality, ambient products do help, especially if you have a buy-on-board concept.

Iris Anna Groenewegen
Icelandair

What does the future hold?

On the future of sustainable food and beverage offers on board aircraft, between them the airlines had a long list of measures they expect to implement or would like to progress, from more pre-ordering and personalisation to catering to different dietary needs.

Icelandair's Groenewegen stressed: "Airlines will offer a larger selection of fresh food options via pre-order to maintain (even increase) the service standards and offer a simpler selection on board. Hopefully, ground handling companies will see the importance of accepting sorted trash from airlines. A common global set-up among waste handlers is needed, so airlines can sort according to what is possible globally."

AirAsia's Goh added that "longer shelf-life products, with sustainable packaging at a competitive cost" was key, while Cathay Pacific Catering Services' Tang said: "We would also want to develop plant-based cuisine and reduce the carbon footprint in the F&B supply chain. But the potential high cost is a deterrent to the development. As the travel industry in SE Asia is only just beginning to recover, cost will be a concern."

And SAS's Naumann said the future would include: "Pre-order and pre-select, where passengers can customise in advance and more shelf-stable options that can be served through the day (we can only keep the cool chain on board for a limited time)."

On the future, Transavia's Schotvanger said: "The national goal is to become a fully circular economy by 2050. Bigger companies, such as Schiphol Airport have an even higher goal to achieve; by 2030 using 50% less primary raw material."

Hence, Transavia also needs to accelerate, to make a plan together with stakeholders, including governments. The question is how and where to start and how to take into account the legal limitations in the airline industry, and differences per country or continent.



The Suppliers' View

Airline caterers have for a long time catered to diet it won't be long before passengers will start making choices about which airline to fly with based on their product choices and environmental messaging in the cabin.

Alison Wells
Plane Talking Products



Waste not, want not

Antonio Siciliani is Business Development manager of Cecily's, a premium, vegan ice-cream, while Dinesh Tadepalli is the Founder of www.incredibleeats.com, a business based in the US that supplies edible cutlery to the hospitality industry and Alison Wells is Co-Founder and Managing Editor of Plane Talking Products (PTP), which supplies airlines with meal-service equipment, textiles and amenities.

They were asked broadly similar questions as those put to the airlines. Not surprisingly both were vocal in their support for more stringent environment-friendly packaging, when asked what they believe are the main issues surrounding sustainability for airlines.

"Something that is always overlooked is the plastic pollution," said Tadepalli, adding: "With climate change, people can feel the heat...but plastic - how do you feel it? You're just used to

using it. I think airlines are not focused enough on sustainability. Why does a plastic spoon, or cutlery, need to be wrapped in more plastic... you can find more innovative ways to pack it.

"I've also noticed that a lot of airlines use plastic cups and trays. The trays might be reused, but the cups and the plastic packaging the food comes in won't be - they will have a huge footprint."

Siciliani added that aside from the plastics issue, food waste - particularly Category 1 waste, which is of animal origin - is a major problem for airlines and they have to have it incinerated.

Said Wells: "Obviously there are the really 'big issues' like use of sustainable fuel, lighter aircraft etc, however I think passengers nowadays assume this is happening even though they can't necessarily physically see it.

"From our sector's point of view, the part they can see is the inflight product and service and if not already happening, it won't be long before passengers will start making choices about which airline to fly with based on their product choices and environmental messaging in the cabin."

Cost vs environment

All three were also asked to rank onboard food waste reduction, onboard packaging waste reduction, lightweighting of food and beverages and more efficient bar/trolley packing in order of importance.

Wells stressed that ranking them in order of importance was a challenge in itself, adding: "I would say regarding on board packaging, that in order to overcome this challenge, airlines need to look at a number of key questions, starting with rotatable vs disposable.

"If disposable is the only option, then looking at suitable materials, geography of sourcing, transportation, delivery and disposal; should all form part of the decision-making process."

And when asked to choose between reducing food or packaging waste and how all the challenges might be overcome, Siciliani believes that the issue of packaging waste actually goes "hand-in-hand" with food waste so suggests the two tie in equal importance.

He said: "A pre-order system would certainly help reduce food waste, but I suspect a lot of issues are around customer expectations: They're not used to pre-ordering. They just want

to get on board and have the options there....In terms of packaging, there could be more efficient trolley packing and simplified solutions such as foldable packaging items and refillable bottles. Also, more compostable materials."

However, he also stressed that any measures would include a cost trade-off. "I think it's the cost and potentially customer services that are sacrificed."

Said Tadepalli: "Why can't airlines use paper cups. Or ask passengers to bring their own, refillable water bottles? If it's a short flight, do we even need to have food and beverages in there. On a lot of long-haul flights, I see pre-made boxes of food containing multiple items, such as nuts, cheese, raisins, or crackers. If waste is really such a big problem why give so many options to one person if they're not going to consume all of them?"

Wells added: "These challenges can be overcome, but I really believe that we can only achieve this by coming together as an industry - sharing information, best practice and working the right way along the supply chain to review the environmental impact of each stakeholder.

"PTP is one of the early members of the Aviation Sustainability Forum, which has been set up to facilitate the coming together of the inflight sector to help us to overcome the challenges together through research, audits and sharing expertise, to aim towards standardising materials used onboard to help with disposal and afterlife."

Ranked in order of importance

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Antonia Siciliani Cecily's	1	2	3	4
Dinesh Tadepalli Incredibleeats.com	3	1	4	2



Time for action

When it came to the one thing airlines could do now to improve sustainability, Wells came back to the notion that all players in the sector need to work together. "We need to share information and try not see the green initiatives as being a competitive advantage... We are all facing the same predicament for the planet and really no one has met the challenge or solved the 'issue' until we all have, so we can't leave anyone behind - we must pull together."

Siciliani believes government intervention that invoked environmental laws to create a level playing field for all airlines could be the way forward. He said: "As much as I don't like rules, one of the disadvantages of not having them is you are putting all the responsibility onto the airlines... Certainly the motor industry is governed by regulations and that has had a positive effect on R&D... if that could happen

from an environmental and sustainability perspective in the airline industry, I think that would make a huge impact."

For Tadepalli, the answer could start with simple solutions: "Aside from the issue of plastic cups, I hate it when plastic is wrapped with plastic, or even any re-usable pack with a plastic cover. It's completely unnecessary... it's not that 100 people are touching that spoon before it comes to your plate."

He also wondered what was taking the airlines so long to act. "I hate it when big companies say 'oh by 2030, by 2050... we will do something'... Do good right now. Not in 2050!"

Forces for good

When asked what they are doing to help airlines be more sustainable and in turn what the airlines are demanding from them on the sustainability ticket, Plane Talking Products' Wells said the business had created a complete range of sustainable alternatives, backed by research into new materials and taking inspiration from other sectors including retail and hospitality.

"We've been developing innovative methods for delivering foodservice on board that reduces the amount of equipment and packaging needed. We've been trying out new care and comfort products – such as toothpaste tablets, refillable deodorants, and shampoo bars, all of which are becoming more and more acceptable to the consumer as their awareness of unnecessary plastic packaging increases," she said, adding: "They are looking for quick wins initially to see what product switches they can make with little or no impact on service and budget."

"We've been challenged by some of our customers to offer sustainable, disposable meal service options – with product that can be easily assembled, is highly functional, while

looking attractive and can carry a strong eco message for the passenger."

Incredibleeats.com's Tadepalli added: "I have my edible cutlery. You can eat your spoon, you can eat your straw, you can eat your spork or your chopsticks. It's as simple as that. They also provide an extra snack...and if they don't have the appetite to eat them, they compost as food."

He said when it comes to the challenges from airlines to his business, it comes back to cost. "I'm really looking forward to airlines finding innovative ways to make things sustainable and profitable at the same time."

Said Cecily's Siciliani: "As a company we are actively seeking to be more sustainable and to source raw and natural materials...but it's very complex because the more we do that, the more prices start to increase...Everyone wants to assist the environment, but there's a price to pay for these things that can put you at a disadvantage to your competitors." He added that airlines wanted to see shorter supply chains...and in the case of UK-based carriers, more British ingredients.



Future gazing

Ecommerce was inevitably one of the answers when asked what the future of airline food & beverage service sustainability might be, along with the demands of the next generation of passengers.

Said Siciliani: "I think the younger generations may have more of an input to influence the decisions being made that would effect change."

Tadepalli agreed that the next generation will be the driving force behind change. "They are more serious because they understand it's their future at stake," he said adding that for the airlines, more sustainability measures might not be 'super profitable' in short term, but in the long run, taking action now would help them.

He concluded: "Don't wait. Don't make us promises that in 20-years-time you will make the change. It might be too late by then."

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Antonio Siciliani
Cecily's Ice Cream





www.foodcase.nl

Foodcase

Foodcase International specialises in ambient, frozen and chilled Food and Beverage concepts.

Foodcase creates innovative food and beverage solutions for the travel industry, through a combination of ingredient knowledge and culinary excellence, innovative food and beverage technologies, packaging and design.

In doing so, it continues to apply its founding ethos: "to Know, to Collaborate, to Create".

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WTCE

World Travel Catering and Onboard Services Expo (WTCE) is known as the place where ideas, products and solutions tantalise the senses to create an onboard experience that dazzles the passenger.

Senior buyers from the world's airlines and rail services attend WTCE to discover new experiences for their passengers.

It is the industry's main event that brings together innovators, influencers and brands, to ensure visitors are able to delight their passengers.