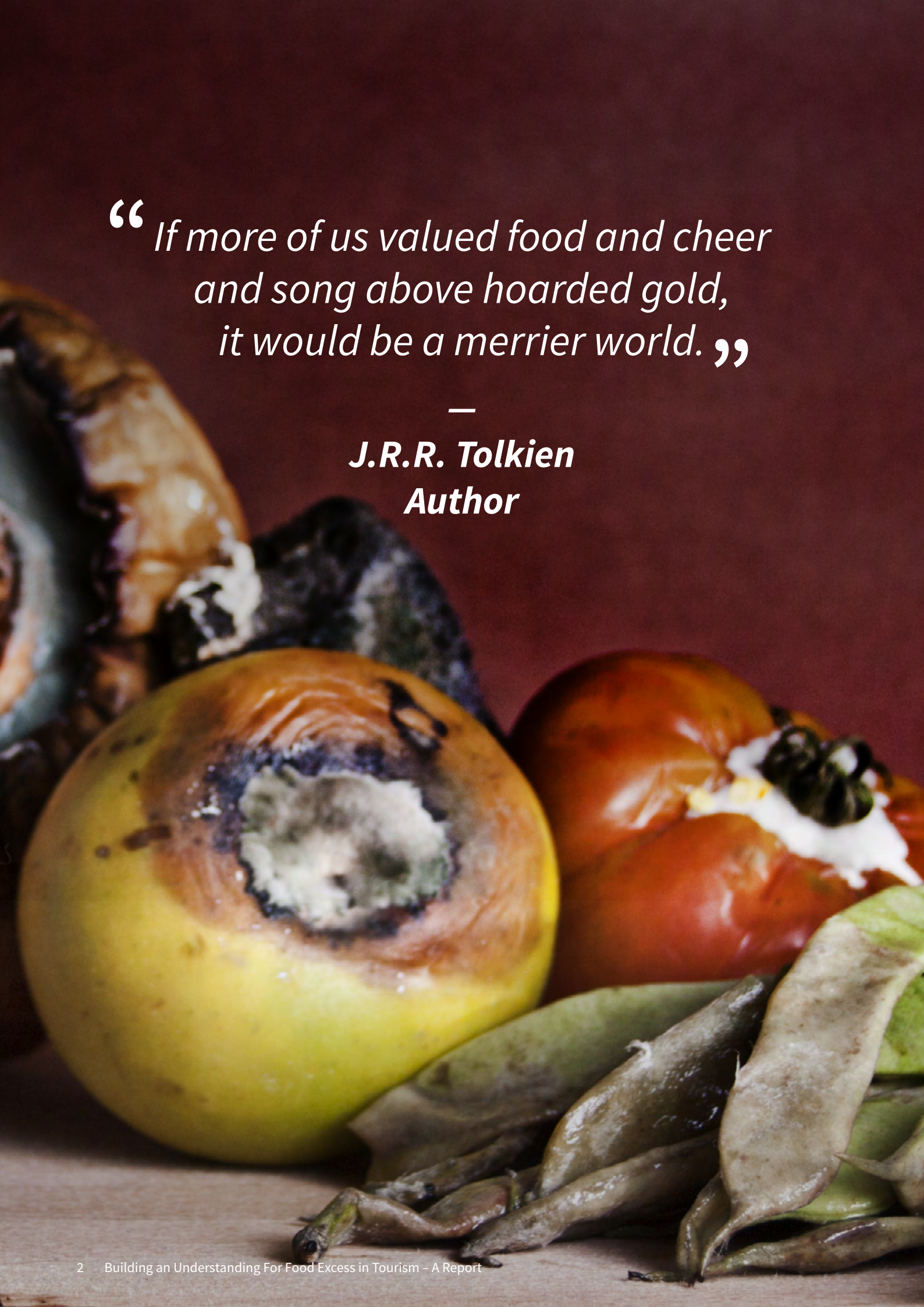




# BUFFET

**Building an Understanding  
For Food Excess in Tourism**

*A report on the state of the Asia Pacific hospitality and tourism industry's relationship with food waste.*



*“ If more of us valued food and cheer  
and song above hoarded gold,  
it would be a merrier world. ”*

—  
**J.R.R. Tolkien**  
**Author**

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*“ I’m uncomfortable being an advocate. I’m not an activist. I’m very comfortable being a doubter, a skeptic. But I’m pretty sure about this.*

*This is not good. Waste is bad. We can all agree on that. ”*

—  
**Anthony Bourdain**  
**Celebrity chef, author,**  
**travel documentarian**



# FOREWORD

**O**ur sister agency of the United Nations, the Food and Agriculture Organization (FAO) estimates that in 2017 alone more than 820 million people around the world, or up to 11% of the global population, were suffering from chronic undernourishment. In stark contrast, an estimated one third of all food produced globally is lost or goes to waste.

Hunger is on the rise and Asia has the highest number of undernourished people on the planet, according to a joint report by FAO, the UN Children's Fund (UNICEF), the World Food programme (WFP), and the World Health Organization (WHO).

The tourism sector can and must play a pivotal role in reducing food loss and waste! At UNWTO, we are committed to making tourism a driver for achieving the Sustainable Development Goals (SDGs). As a cross-cutting sector like almost no other, we can make an effective contribution to achieve zero hunger (SDG 2), ensure responsible consumption and production (SDG 12), take urgent action to combat climate change (SDG 13), and foster partnerships (SDG 17).

These are the four specific SDGs addressed by the PATA BUFFET Initiative: Redirecting quality excess food, driving tourism awareness, and developing region-specific tools and resources to show the positive impact of redistribution and recycling. In reducing our overall food waste to landfill, this initiative also makes an impact on the amount of methane in our collective atmosphere, all while engaging our wide industry network.

As the tourism sector grapples with growth and sustainability, we look to initiatives like BUFFET and publications like this report that addresses the specific needs of both our planet and its inhabitants. This important paper by PATA will help us gain an understanding of the Asia Pacific industry's current status regarding food waste and its prevention practices. Furthermore, this report will help to develop and implement strategies to overcome food excess and waste.

I commend this original paper and look forward to seeing greater solidarity in the sector to avoid the social and environmental consequences resulting in food waste as we progress towards the 2030 Agenda.



**Zurab  
Pololikashvili**

*Secretary-General  
UNWTO*

# FOREWORD

**A** destination's cuisine is often near the top of my list when I plan my leisure or business trips. Some of my most indelible memories and windows into the fabric of a destination are through having a diversity of culinary experiences – dinners with colleagues in an award-winning restaurant, sitting in a sidewalk café watching the world go by, adventure dining in food stalls, lunch in a family-run restaurant, and a well-orchestrated conference banquet.

Recently, one of my long-time friends, Paul Hawken, shared that a group of climate experts identified food waste as the number three solution to reverse climate change. This stopped me in my tracks and it dawned upon me, having had the experience of working my way through college in restaurants, that this is an opportunity for the hospitality industry to be part of the solution and improve their bottom line.

Two years ago, WWF, with support from The Rockefeller Foundation, and the American Hotel & Lodging Association conducted a series of demonstration projects aimed at understanding the most effective ways to reduce food waste across the sector in furtherance of WWF's goal to reduce food waste by 50% by 2030. Hotels, which serve 35 billion dollars in catering and banquets each year in the US, was an ideal test bed to learn, iterate, drive waste reduction, and help reshape the food service industry.


Hilton, Hyatt, IHG, and Marriott International were among the brands that participated in the 16-week demonstration project. The results were stunning. Participating companies reduced food waste 10% to 38%, and in some cases, the properties lowered their food cost by three percent or more after increasing measurement and engagement.

The Pacific Asia Travel Association's Building an Understanding for Food Excess in Tourism (BUFFET) initiative offers a menu of best practices to decrease food waste, reduce food cost, meet the growing demands of a growing Asia Pacific marketplace, and combat climate change. I encourage you to embrace this initiative so that we can collectively combat one of the greatest threats to the travel industry. As my colleague, Pete Pearson observed "We no longer have the luxury of time. Because our food carries such a high environmental cost, avoiding waste is a win-win for business and the planet. With increased travel industry engagement, we know we can make a difference."



**Jim Sano**

*Vice President, Travel, Tourism  
& Conservation  
WWF*



*“ Food is one of the most important things  
in the world, it sustains life.*

***What would we be without food? ”***

—  
***Doug McMaster***  
***Chef, zero-waste restaurateur***



# EXECUTIVE SUMMARY

Every year around the globe, 1.3 billion tonnes of food is lost or wasted. That is one-third of all food produced for human consumption.

There is a huge opportunity for the tourism and hospitality industry in the Asia Pacific region to take a bite out of this problem. This report aims to evaluate the opportunities for the industry and region to step up to the plate and do our part.

To start, an amuse bouche for this report examines multilateral, federal and non-profit initiatives that have been through the test kitchen, while serving up some full-bodied data focusing on the hospitality sector. The texture is surprising; the taste, comforting. In the main course, the meat of the report is served through case studies, a global dégustation of organisations sharing a generous helping of their food waste reduction practices. The next course explores the youth component of PATA's BUFFET (Building an Understanding For Food Excess in Tourism) Initiative. This chapter is pleasantly succulent, with a hopeful aftertaste. To fill in the gaps, we have a mouthwatering pilot study conducted with Scholars of Sustenance Foundation - Thailand, some "imagine ifs" to be taken with a grain of salt. And finally, for dessert, a helping of sentiments and some zesty tidbits of advice from our friends.

Don't be a couch potato and get a seat at the table. All the smart cookies are joining the movement because they know that tackling food waste will bring home the bacon.



# CHAPTER 1

## INTRODUCTION



*“We are literally taking food out of the mouths of the hungry and sending food waste to the landfill. That is crazy.”*

—  
**Tristram Stuart**  
*Author, speaker, campaigner,  
Sophie Prize winner*

According to the Food and Agriculture Organisation of the United Nations (FAO):

**Every year around the globe, 1.3 billion tonnes of food is lost or wasted. That is one-third of all food produced for human consumption (FAO, 2019).**

Food loss and waste also amount to a major squandering of resources, including water, land, energy, labour and capital. It produces greenhouse gas emissions, contributes to global warming and climate change (FAO, 2019).

Today, 842 million people are undernourished. With an estimated world [population of 9.8 billion people in 2050](#), resources will be limited and more people will go hungry (UN, 2017).

The tourism industry is one of the largest economic sectors globally, which, according to the [WTTC](#) supports one in 10 jobs (319 million) worldwide and generates 10.4% of world GDP (WTTC, 2019). The tourism industry serves billions of meals every year in restaurants and hotels. It is the responsibility of our industry to **take action**.

# 95%

of a restaurant's general waste could typically be recycled or composted ([Nielsen and Green Restaurant Association, 2004](#); [Pirani and Arafat, 2014](#)).

The tourism sector has the opportunity to make lasting, positive and wide-reaching change. Reducing food waste will help operators save on costs while benefiting the environment at the same time. Reducing food waste in this sector has far-reaching implications and addresses four of the seventeen United Nation's Sustainable Development Goals (SDGs):



## Goal 2: Zero Hunger

*End hunger, achieve food security and improved nutrition and promote sustainable agricultures by recycling quality excess food*



## Goal 12: Responsible Consumption and Production

*Ensure sustainable consumption & production patterns by raising awareness and sharing tools to prevent and reduce food waste, and encouraging tourism businesses to implement, evaluate and mainstream SCP practices and strategies that contribute to sustainable growth and development*



## Goal 13: Climate Action

*Take urgent action to combat climate change and its impacts by diverting food waste to landfill, resulting in a reduction of methane and carbon dioxide released into the atmosphere*



## Goal 17: Partnerships for the Goals

*Strengthen the means of implementation and revitalise the global partnership for sustainable development by facilitating sector partnerships, collaboration and solidarity*

## CHAPTER 1: INTRODUCTION

*Building an Understanding For Food Excess in Tourism – A Report* is the capstone of PATA's BUFFET (Building an Understanding For Food Excess in Tourism) Initiative, which features a [website](#), a [downloadable toolkit and accompanying resources that tackle food waste](#). Under the BUFFET Initiative, the Bangkok Hotels Project linked hotels in Bangkok with [Scholars of Sustenance Thailand](#), a food rescue and redistribution organisation, while the [BUFFET for Youth Challenge](#), aimed to raise awareness of food waste issues among young tourism professionals, and implored them to take action.

This report provides an overview of food waste in the Asia Pacific, and presents data and case studies on what is being done to improve the situation. The report also reviews the BUFFET for Youth Challenge and the Bangkok Hotels Project, and finally, provides recommendations to organisations seeking to begin their food waste reduction journeys.

Although this work is geared towards the hospitality sector, it is also relevant to other sectors that have food and beverage operations.



# CHAPTER 2

## SITUATION ANALYSIS



*“ All together, we are creating a community, and this community can truly create a revolution in the food world and beyond. We have to feed the world, we have to fight waste ”*

—  
**Massimo Bottura**  
**Restaurateur, three-Michelin-star chef**

### Multilateral Organisations

The UN, specifically the United Nations Environment Programme (UN Environment) and the Food and Agriculture Organisation of the United Nations (FAO), are working explicitly to curb food waste, particularly under the UN's SDG 12.3: aim to halve food waste by 2030. Examples of this ongoing work include:

- [Think. Eat. Save. Campaign](#), focusing on food wasted by consumers, retailers and hospitality. The campaign offers resources to reduce food waste and encourages people to take action
- [Zero Hunger Challenge](#) launched in 2012 works to eliminate malnutrition and build inclusive and sustainable food systems
- [SAVE FOOD: Global Initiative on Food Loss and Waste Reduction](#), an initiative that aims to drive innovations, promotes interdisciplinary dialogue and generate solutions across the entire food value chain
- [Food Loss and Waste Accounting and Reporting Standard](#) is a tool for companies and governments to quantify and report on food loss and waste to develop food waste reduction strategies
- [Waste Not, Want Not](#) is a report examining life-cycled based approaches in North America for reducing food loss and waste

These organisations are also running active consumer-facing social media campaigns to drive awareness.



Image source: [Instagram: unenvironment, 2019](#)

## National Governments

### Europe

The most progressive food waste prevention strategies originate in Europe, with the EU's 2003 [Landfill Directive](#), its 2006 [Waste Framework Directive](#), and its Country Report Consultation on national food waste policy in Europe, “[FUSIONS](#).” The EU also launched a food wastage declaration, “[Every Crumb Counts](#),” where co-signatories pledge to work towards preventing edible food waste, promoting a wholistic approach to reducing waste.

As a result, many countries within Europe including France, Italy and Denmark are voluntarily implementing strategies to address food loss and waste. The government of France is taking a lead by banning all supermarkets from disposing any food that has not been sold ([Chrisafis, 2016](#)). In France, leftover food must be donated, or stores will face a fine of up to €75,000 or 2 years in prison ([Gore-Langton, 2017](#)).

In the Republic of Ireland, [FOODWaste.ie](#) is the national programme to promote food waste regulations and is an initiative of Department of Environment, Heritage and Local Government and Cré-Composting & Anaerobic Digestion Association of Ireland. In 2010, the Environmental Protection Agency (EPA) of Ireland published “[Less Food Waste-More Profit](#),” a guide that shows how to prevent food waste with tips on purchasing, storage, preparation, serving and post-cooking storage of food. The National Waste Prevention Programme Prevention Plan 2009-2012 set out to promote food waste prevention and home composting ([FOODWaste.ie, 2010](#)).

### Asia Pacific

In the Asia Pacific region, governmental efforts to introduce regulatory change have not gone unnoticed. In 2016, Australia committed to creating a National Food Waste Strategy. Its main objective is to reduce general food waste by 50% by the end of 2030 ([Department of the Environment and Energy, 2017](#)).

Within Asia, the government of the Republic of Korea began widespread food waste reduction initiatives in 2012 by prohibiting food residue from being discarded into landfills and waterways. Under the current regulation, residents deposit food waste into a bin that weighs the waste and collects data. The information is then used to bill households on a monthly basis. This initiative resulted in a 20% decrease in food waste in Korea (ROK) in its first year of implementation ([Chrobog, 2015](#)).



Images source: Hong In-ki, [Kim, 2016](#)

In China, the government is taking policy measures to reduce food waste, including addressing grain storage, organising, educating, supervising and inspecting work on food waste reduction. These policy measures aim to reduce post-harvest losses for produce (Liu, 2014). Additionally, the “Clean Your Plate” Campaign encouraged restaurant goers not to over order at restaurants, take away their extra food (Lam, 2017).



Image source: [Food Wise Hong Kong, 2013](#)

In Hong Kong SAR, food waste was found to account for over 40% of the city’s solid municipal waste. In response, the Special Administrative Region established its “Food Wise Hong Kong Steering Committee” in late 2012, which was responsible for Hong Kong’s strategies to reduce food waste to landfill ([Food Wise Hong Kong, 2013](#)). The government’s efforts included public service announcements on [television](#), posters located in public areas and disseminating [resources explaining how to reduce food waste](#). In 2014, the government created the [Food Waste & Yard Waste Plan for Hong Kong \(2014-2022\)](#) providing a comprehensive strategy, targets, policies and action plans for the management of food waste and yard waste, with the target to reduce the amount of food waste to landfill by at least 40% by 2022.

In 2018, Malaysian Deputy Prime Minister Datuk Seri Dr Wan Azizah Wan Ismail stated that a law on food waste will be formulated upon completion of an assessment of the topic, citing that on average, each Malaysian throws away almost one kg of food daily ([MalayMail, 2018](#)). The Malay government plans to launch a national food bank to collect and redistribute non-perishable food items ([Rahman, 2018](#)).

The [Thailand Convention and Exhibition Bureau \(TCEB\)](#), established under the office of the Prime Minister, provides financial incentive to hotels with event venues to reduce their food waste. The amount of the subsidy received depends on how much food is purchased. A hotel purchasing ฿ 2-5 million (approximately US\$62,600) worth of food per month will receive a ฿100,000 (approximately US\$3,100) subsidy; ฿5-10 million (approximately US\$156,600-313,300) worth of food purchased monthly will receive a ฿150,000 (US\$4,700) subsidy, and hotels purchasing more than ฿10 million (approximately US\$313,300) worth of food monthly will receive a ฿2 million (approximately US\$156,600-313,300) subsidy. To receive the subsidy, properties must reduce their baseline amount of food waste by 10% and must obtain a third party certification (Bucher, 2019). TCEB has also endorsed a food waste prevention certification programme called [The Pledge™](#), which includes 95 criteria to cut food waste and save on food costs. It is also worth mentioning that [Thailand’s Pollution Control Department](#), a division of the Thai Ministry of Natural Resources and Environment, published the “[Booklet on Thailand State of Pollution 2018](#)” in February 2019; however, it does not address food waste specifically.

Food waste is one of the largest waste streams in Singapore. The amount of food waste generated has grown by around 40% over the last 10 years. Eight hundred and ten million kg of food waste was generated in 2017 – that’s the weight of more than 54,000 double decker buses (Towards Zero Waste, 2019).



Singapore has designated 2019 as the year [Towards Zero Waste](#), a push towards becoming a zero waste nation. Under this campaign, the government has supported 24 premises, including hotels, malls and educational institutions, to install on-site food waste treatment systems under the [National Environment Agency \(NEA\)’s 3R Fund](#). Other initiatives to target the hospitality industry include the development of guidebooks for [food retail outlets](#), and testing the feasibility of onsite food waste treatment systems at some of Singapore’s famous hawker centres. Other initiatives include the “Love Your Food” Campaign rolled out by the National Environment Agency in 2017. This campaign raised awareness of food through a [recipe contest](#), and gave citizens resources, such as [guidelines](#) to “reducing food wastage and saving money” (NEA, 2017).



Image source: [National Environment Agency and Agri-Food & Veterinary Authority of Singapore, 2015](#)

In the Philippines, [The Sustainable Diner project](#) hopes to lessen food wastage and contribute to the improvement of the implementation of sustainable consumption and production processes in the foodservice sector. Initiated by WWF-Philippines, the project is engaging the government, food service businesses, and consumers in promoting sustainable dining practices and in making The Philippines’ food service industry more environmentally friendly. Despite over a quarter of the country’s population living below the poverty line, with 2.7 million million families experiencing involuntary hunger at least once in the past three months, it has also been estimated that Filipinos waste up to 308,000 tons of rice every year ([WWF Philippines 2019](#), [IRRI 2010](#)). In Metro Manila, 2,175 tons of food ends up in trash bins daily. According to the Department of Environment and Natural Resources, majority of the municipal solid waste in the Philippines is bio-waste and more than 80% of that is food waste (Melo-Rijk 2019).

The project has forged relationships with three pilot cities in the Philippines that support the project’s initiatives by endorsing the project to selected restaurants; participating in workshops, dialogues, and related events hosted by the project; co sharing of resources by providing venues for the said events; and most importantly, determining and crafting policies that address sustainability issues in the food service industry. More than a year into the project term, the project regularly updates the governments of partner cities as to its progress and plans on top of engaging them in policy-oriented activities. Local governments have crafted and implemented ordinances to support the promotion of SCP. At the national level, various agencies are becoming aware of sustainable consumption and production (SCP) practices in the food service industry, with the [National Economic and Development Authority \(NEDA\)](#) being particularly involved in developing the national SCP framework. It is worth noting that the project is also actively engaging with consumers through multimedia messaging including [games](#), [videos](#), and [social media](#).



## Americas

It should be noted that in the Americas, there are no federal regulations addressing food waste or organic waste specifically. In 2015, the United States Environmental Protection Agency announced a goal to reduce food loss and waste by half by the year 2030 and is working to facilitate discussion amongst stakeholders ([United States Environmental Protection Agency, 2019](#)).

In many countries around the world, Good Samaritan law offers legal protection to those who provide well-intentioned assistance to those in need; however, its focus is on food donation and liability, not on food waste. In the United States, for example, the Bill Emerson Good Samaritan Act of 1996 was established expressly to encourage food donation to nonprofits by minimizing the liability of the food donor ([Feeding America](#), 2019).

There are some municipalities, such as San Francisco's 2009 mandatory "[Recycling and Composting Ordinance](#)," which mandates the separation of waste into three categories: recycling, compost, and landfill. Vancouver, Canada, as of 2015, also requires all food waste to be disposed of via its own waste removal stream, separate from those for garbage and recyclable materials.

A list of [governmental initiatives worldwide](#) was developed as part of the BUFFET Initiative.

### Non-Governmental Organisations (NGOs)

Worldwide, There are several non-profit organisations that are addressing food waste within tourism and hospitality; a number of them partnered with the BUFFET Initiative.

**World Wildlife Fund (WWF)** works to create a sustainable food system that safeguards biodiversity while ensuring food security, now and into the future. The global organization notes that the food system is the single biggest threat to nature today, with various drivers leading to 70% of biodiversity loss, including deforestation, overfishing, and conversion of other habitats for agriculture. WWF works across sectors to transform business practices, improve governance, and protect communities and livelihoods while accelerating action and raising awareness of the need for behavior change. WWF is tackling food loss and waste by working with consumer-facing businesses like restaurants and retailers, while also striving to reduce post-harvest losses on farms and raise awareness with consumers. To address waste in the hospitality industry, WWF-US created a toolkit and platform called [Hotel | Kitchen](#) in collaboration with the [American Hotel & Lodging Association](#), and with support from the Rockefeller Foundation, for hotel properties to prevent and manage food waste. WWF is currently working in the US, Croatia, Barbados, Nairobi, Brazil, Malaysia, and Singapore to scale the program, prioritizing data collection, testing interventions and changing culture. WWF-Australia has carried out pilot projects with Hilton Hotels in Sydney and Cairns including food waste audits, staff training and other interventions to avoid food waste and increase donations to food rescue organizations. "To transform the food system, we need to increase people's awareness of where food comes from, and change our behaviours to ensure the proper functioning of our food system," says João Campari, WWF Food Practice Leader.

**WRAP** (Waste & Resources Action Programme) in the UK is the "go-to" organisation for [food waste prevention in the UK](#), and has resources specific to [hospitality and food service](#). WRAP is a thought leader in this space, and published a report providing an [Overview of Waste in the UK Hospitality and Food Sector](#). They also spearheaded the "[Your Business is Food; don't throw it away](#)" toolkit to help hospitality and food service businesses throw less food away.

**The Travel Foundation** is a UK-based non-profit that brings together stakeholders in the tourism sector to develop practical solutions and create systemic change, which maximise the benefits and minimise the negative impacts of tourism in destinations. In one such example of its food waste-related work, The Travel Foundation created a [Waste Mapping Guidance for Hotels in Cyprus](#), providing a blueprint for other hotels around the world to save money and improve the environment.

[Green Hotelier](#), the key communication tool of the [International Tourism Partnership](#), put out a [know-how guide on reducing and managing food waste in hotels](#). The site has published a number of articles addressing food waste and has helped drive awareness of the issue.

[Futouris](#), based in Germany, developed a [Sustainable Food Manual](#) together with MODUL University Vienna and FH Wien University of Applied Sciences of WKW, which addresses ways to reduce food waste. The organisation also released a [Sustainable Food Guest Communication Manual](#), providing materials that restaurants can use to communicate with their guests, including some suggested language and messaging around food waste. Futouris has also been engaging with TUI Cruises on [reducing food waste on board the cruise liner](#).

[ABTA](#) recently [announced 'Reduce, Reuse, Recycle' as the 2019 theme](#) for its Make Holidays Greener initiative in partnership with Travelife for Accommodations. The annual summer campaign runs from 5 June (World Environment Day) to September, and will address waste issues including food waste ([ABTA 2019](#)).

[ReFED](#) is a U.S.-based multi-stakeholder nonprofit powered by a network of private, public and non-profit leaders committed to reducing food waste. The organisation has developed resources and tools to drive impactful solutions to reduce food waste, including in the restaurant and food service sector.



Image source: *Scholars of Sustenance Thailand, 2017*

In addition to these notable non-profits acting to reduce on food waste in tourism and hospitality, there are many food banking and redistribution organisations worldwide, the [Global Food Banking Network](#) being a notable organisation currently working in 15 countries. Its mission is “to alleviate global hunger by developing food banks in communities where they are needed and by supporting food banks where they exist” ([The Global Food Banking Network, 2019](#)). Others include [Oz Harvest](#), a food rescue organisation that also has branches in New Zealand and the UK, with South Africa in the pipeline. [Second Harvest Asia](#) promotes food banking and provides food for people in need in Asia.

[Scholars of Sustenance Thailand](#) (SOS) is a food rescue and redistribution organisation that was formed to address global food distribution issues by establishing well-managed systems applying potential waste and surplus food in a meaningful way for communities in need ([Scholars of Sustenance, 2019](#)). SOS currently has operations in Cambodia, Indonesia and Thailand, and was one of PATA’s project partners for the BUFFET Initiative.

A list of [food waste prevention and reduction organisations worldwide](#) was developed as part of the BUFFET Initiative.

## Hospitality Industry

To evaluate the status of the hospitality industry with regards to food waste, we turn to Greenview’s [Green Lodging Trends Report](#), “the lodging industry’s annual exercise to assess and catalyze green innovation, best practices, and awareness regarding the state of sustainability across hotels worldwide. The report highlights and summarizes responses to 115 survey questions in these categories: Energy Management, Waste Management, Water Conservation, Health & Wellness, Back of House, Communications, Staff Involvement, Community Involvement, and Climate Action & Certification” (Greenview, 2018). Their data compare global hospitality sustainability trends, specifically with regards to food waste management practices that will be examined here.

This year, the report received data for 4,544 hotels across 61 countries, with a total of 2,271 properties located in the Asia Pacific region. In terms of service type, 56% of properties were classified as full-service properties, and 43% were classified as limited service with the remaining <1% properties’ service type as unidentified.

Key findings regarding food waste from the *Green Lodging Trends Report*:

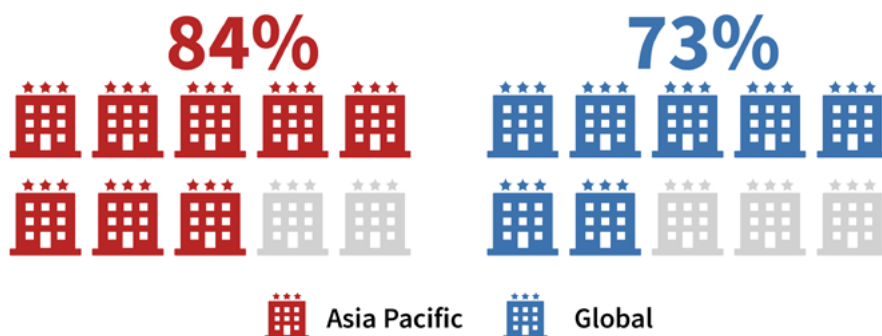
**57.7%**

of global respondents measure the amount of food waste generated and take initiatives to reduce food waste. In the Asia Pacific, this number rises to 77.8% of respondents (Greenview, 2018).

**72.7%**

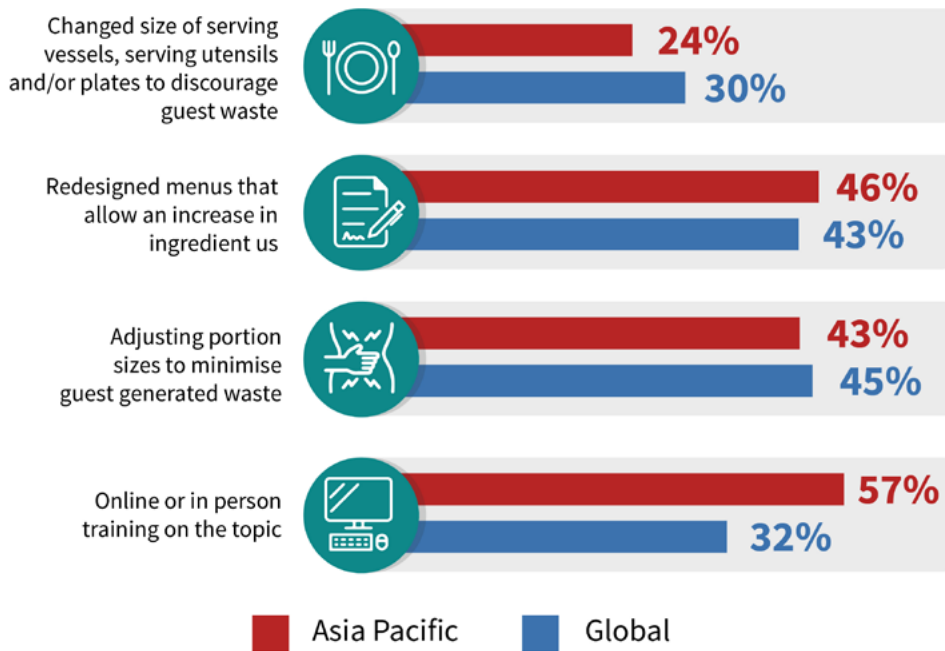
of global respondents have food waste prevention strategies. In the Asia Pacific, this number rises to 83.8% of respondents (Greenview, 2018). Methods used for preventing food waste include: adjusting portion sizes, redesigning menus that allow an increase in ingredients use, trainings on food waste and changing the size of serving vessels, serving utensils or plates

### % of respondents implementing food waste prevention strategies



*More Asia Pacific survey respondents across all lodging service segments are implementing food waste strategies compared to their counterparts globally*

## Food Waste Prevention Strategies Being Implemented (Asia Pacific vs Global) Across All Segments

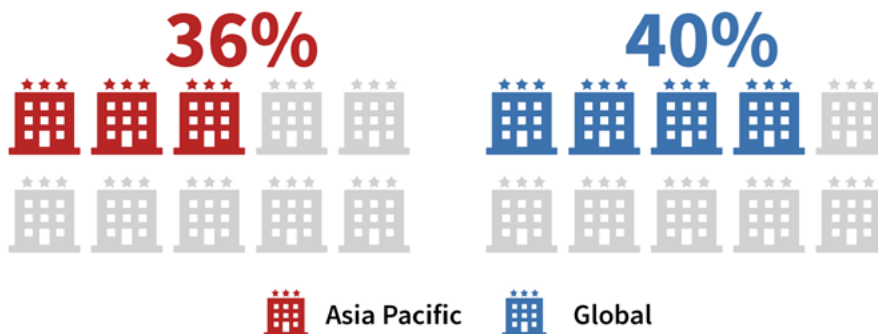


A comparison of strategies utilized to prevent food waste in Asia Pacific vs. globally across all lodging service segments

**40%** global respondents donate excess food to community kitchens or other similar programmes. In the Asia Pacific, this number rises to 47.8% of respondents (Greenview, 2018).

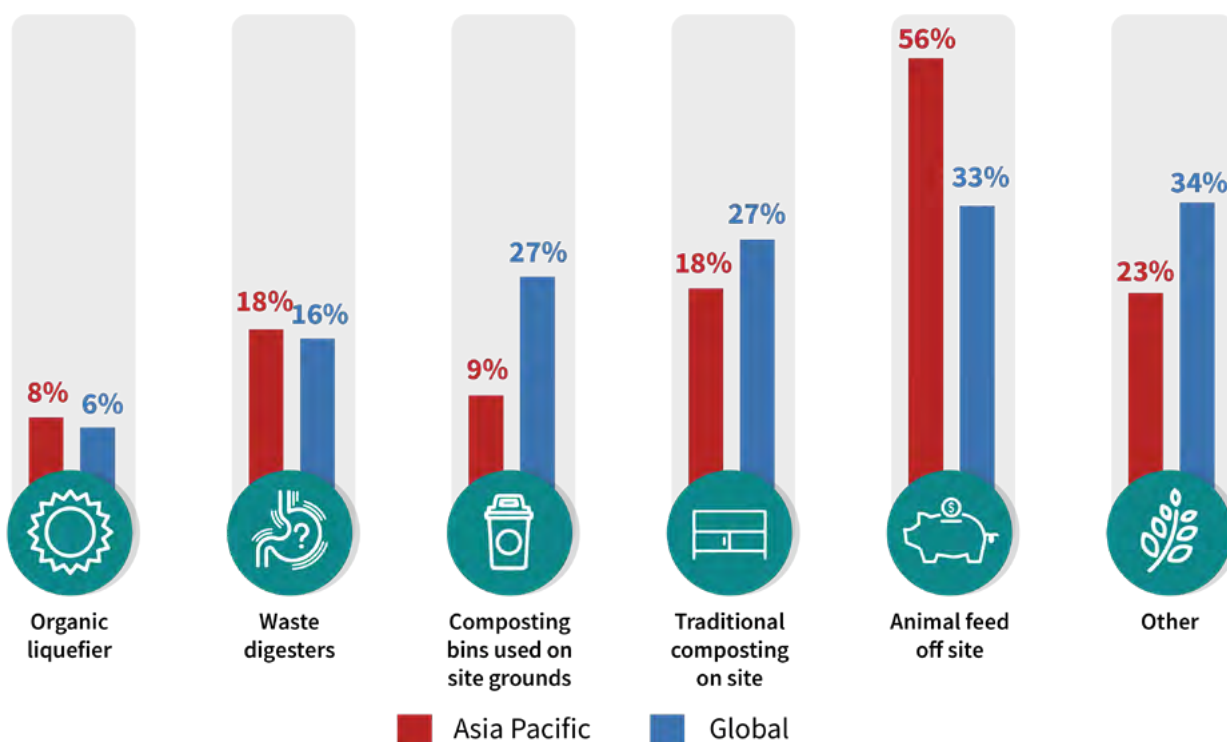
**40.1%** of global respondents compost food waste. In the Asia Pacific, this number is lower, at 36.4%, and is less than both the Americas and EMEA (Greenview, 2018).

## % of respondents (Asia Pacific vs Global) Composting Food Waste



Asia Pacific vs. global respondents' rate of composting food waste across all lodging service segments

### Methods of Composting Food Waste Across All Segments (Asia Pacific vs Global)



Asia Pacific vs. global respondents' methods used to compost food waste across all lodging service segments

**42.5%**

of global respondents grow food ingredients on site. In the Asia Pacific, this proportion is significantly higher, at 61.5% ([Greenview, 2018](#)).

**70.5%**

of global respondents have a sustainable seafood purchasing policy, an increase since 2017 (57%). In the Asia Pacific, a notable 86.8% of respondents have such a policy, the highest compared to other regions ([Greenview, 2018](#)).

**10.2%**

of global respondents have a vegetable and/or herb garden on the roof of their hotel. In the Asia Pacific, 10.1% of respondents have such gardens, a figure similar to other regions ([Greenview, 2018](#)).

**17.1%**

of global respondents purchase food and beverages from local producers. In the Asia Pacific, this rises to 27% of respondents, which is a greater proportion than respondents from the Americas or EMEA ([Greenview, 2018](#)).

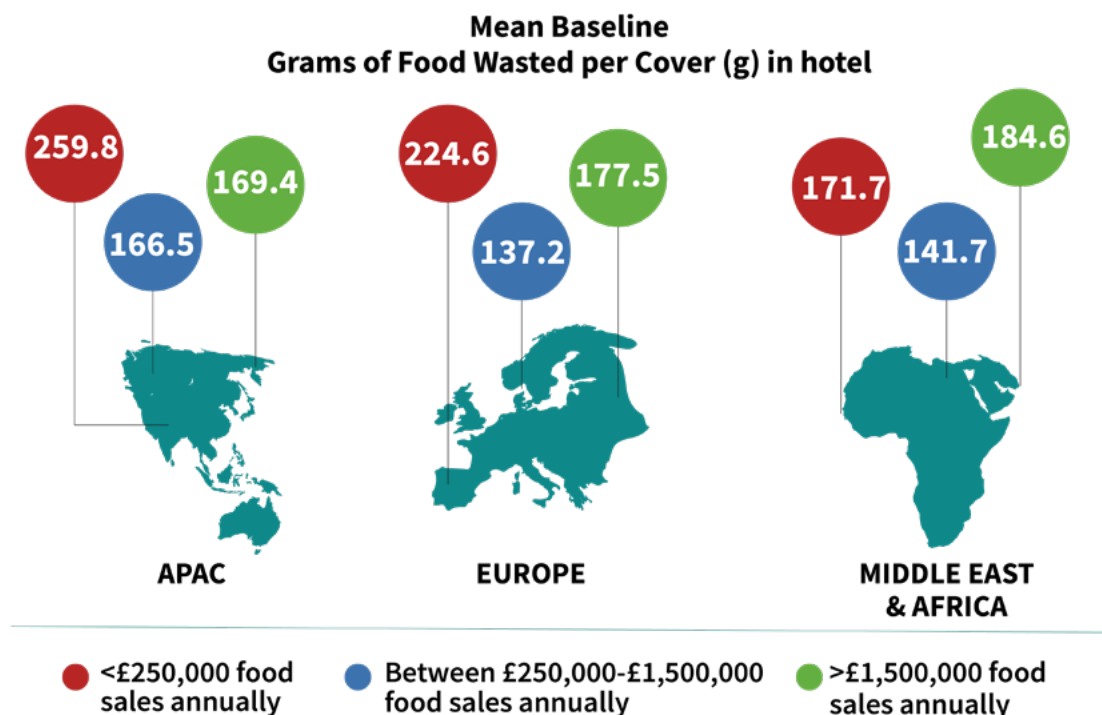
Overall, it appears that a higher percentage of accommodations in the Asia Pacific region are taking measures to prevent food waste, when compared to their global counterparts. While composting in Asia Pacific is less common, other methods of food waste diversion such as utilizing on-site food waste digesters, or providing food waste for piggeries and other innovative methods are prevalent.

[Winnow, a programme used to](#) measure food waste, provides a deep dive on the hotels implementing food waste strategy and provides insights about trends in sustainability practices amongst hotels that have implemented some technology to assist in food waste reduction efforts.

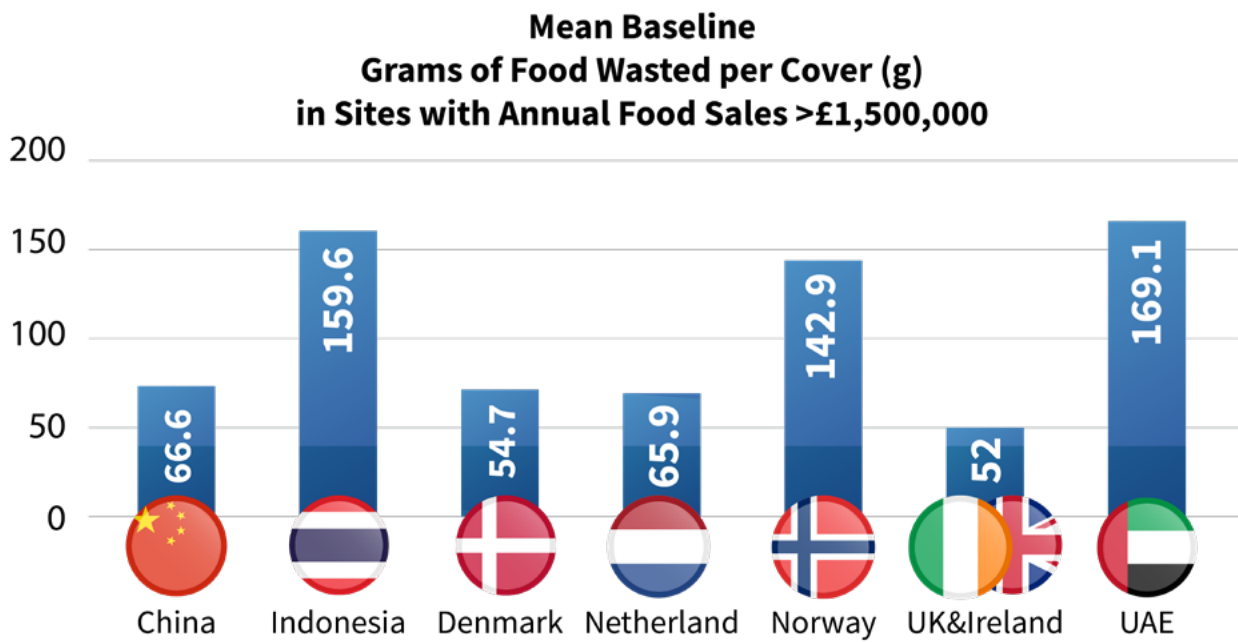
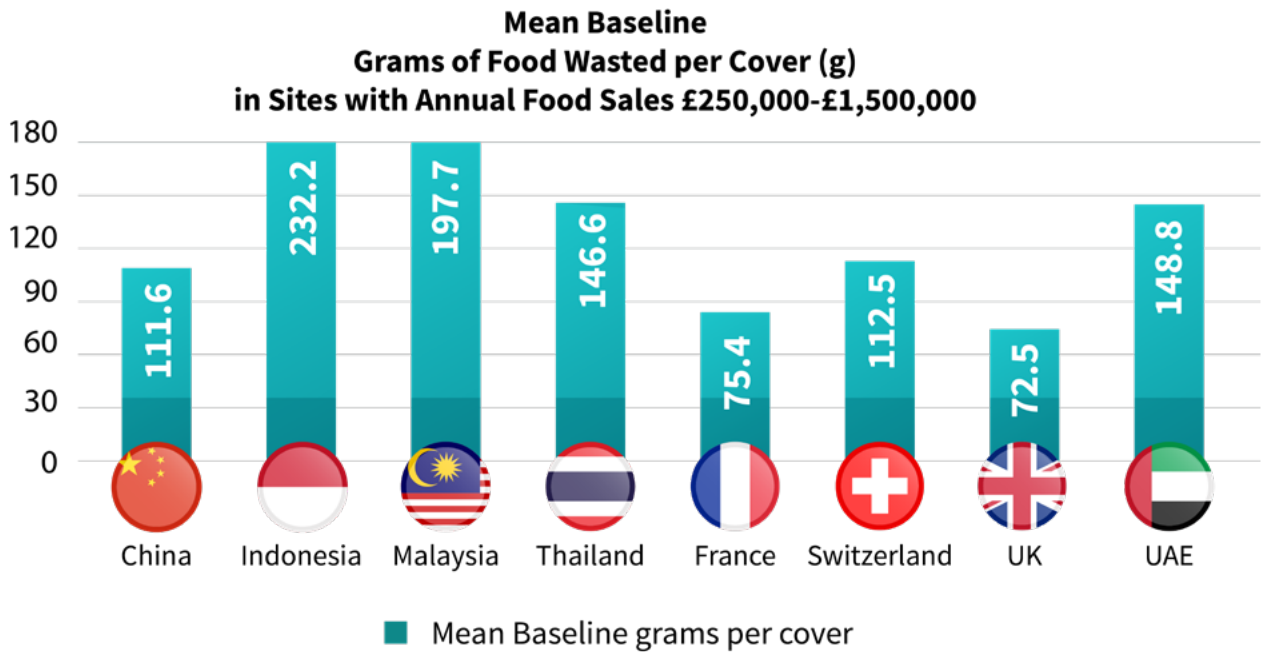
Winnow builds artificial intelligence tools to help chefs run more profitable and sustainable kitchens by cutting food waste in half. Winnow works with brands like Accor, Hilton, Marriott, Club Med, Compass Group and Costa Cruises in over 40 countries. Kitchens using Winnow typically see food waste cut in half equating to a reduction of 3%-8% in food costs. This anonymised data below has been made exclusively available by Winnow.

Cost reduction and weight reduction comparisons are made between baseline and the average of the three weeks around the six-month point. All values relating to sales/cost were recorded in British Pounds Sterling (£), and all values related to weight are in grams or kilograms (g/kg). The values detailed below are kept in its original currency to maintain their integrity.

First, to compare food waste in the hospitality context around the world, hotels in Asia Pacific that have less than £ 1,500,000 (about US\$1,940,000) in annual food sales have a greater mean baseline of food wasted (grams per cover) than those in Europe, Middle East and Africa. Hotels in Asia Pacific that have more than £1,500,000 in annual food sales have a lower mean baseline of food wasted (grams per cover) than those in Europe, Middle East and Africa.



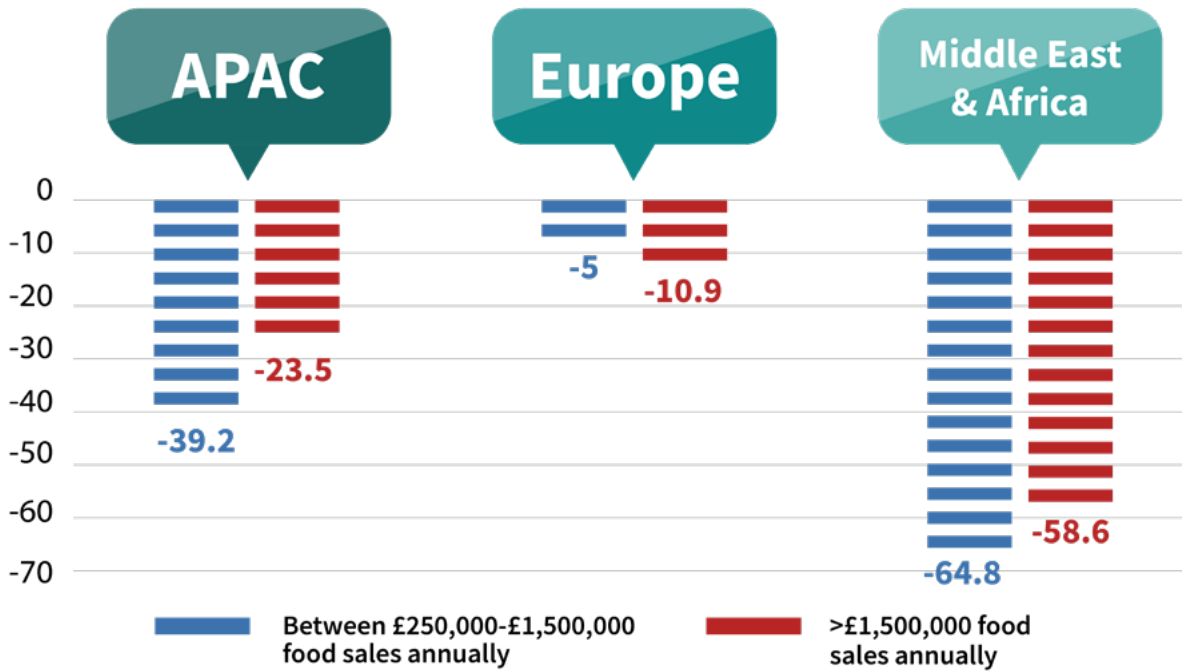
At the country level, we can compare the mean baseline of grams of food wasted per cover in sites (includes hotels as well as staff dining, education, stand alone restaurants) with annual food sales (about US\$323,000-1,940,000) in China, Indonesia, Malaysia and Thailand in Asia, with France, Switzerland, UK, and UAE representing EMEA. The graph below illustrates that the mean amount of food wasted per cover is generally higher in Asia compared to the rest of the world before implementing the Winnow System. In terms of sites with annual food sales greater than £1,500,000, those in Europe show considerably less food waste by weight than sites represented in Asia or UAE. Data is not yet available to compare how these sites and countries are doing after six months of programme implementation.



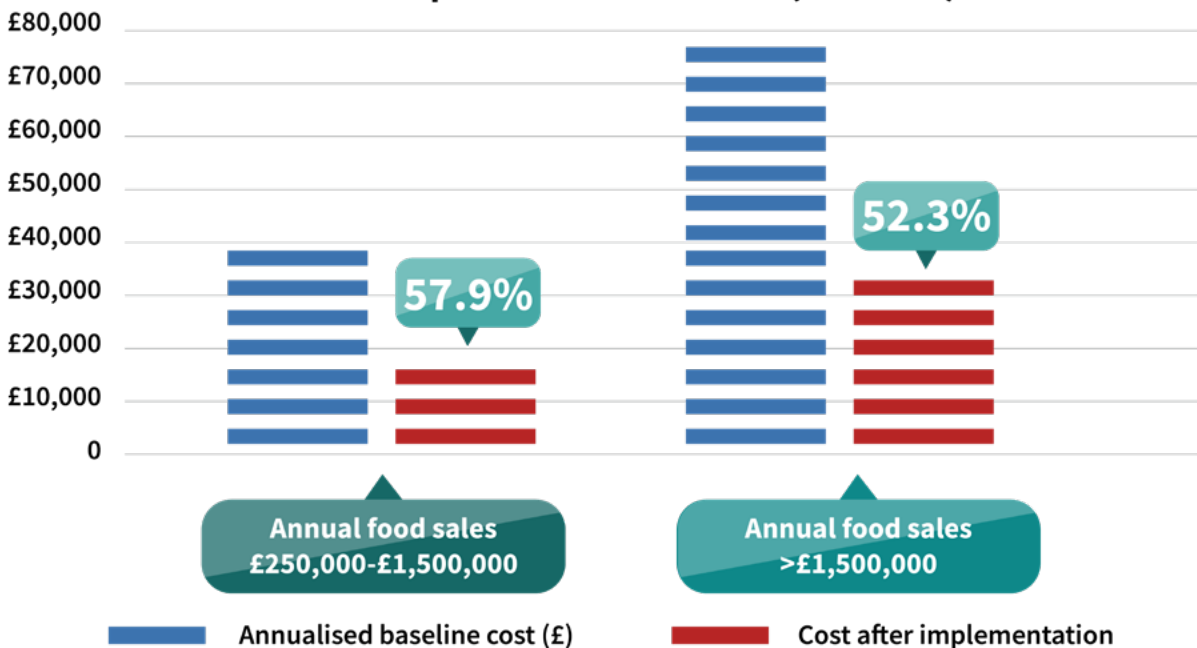
After six months of implementing the Winnow System, hotels in APAC with £250,000 to £1,500,000 in food sales annually saw a decrease of 39.2% of food wasted in grams per cover (g/cover), as illustrated in the figure below. Hotels doing greater than £1,500,000 in food sales annually saw a decrease of 23.5% of food wasted (g/cover). Data is not available for hotels with less than £250,000 in food sales annually.



**Weight Change of Food Wasted in Hotels After Implementation (6 Months)**



**APAC Hotel Annualised Costs Before Implementation vs. After (6 Months)**

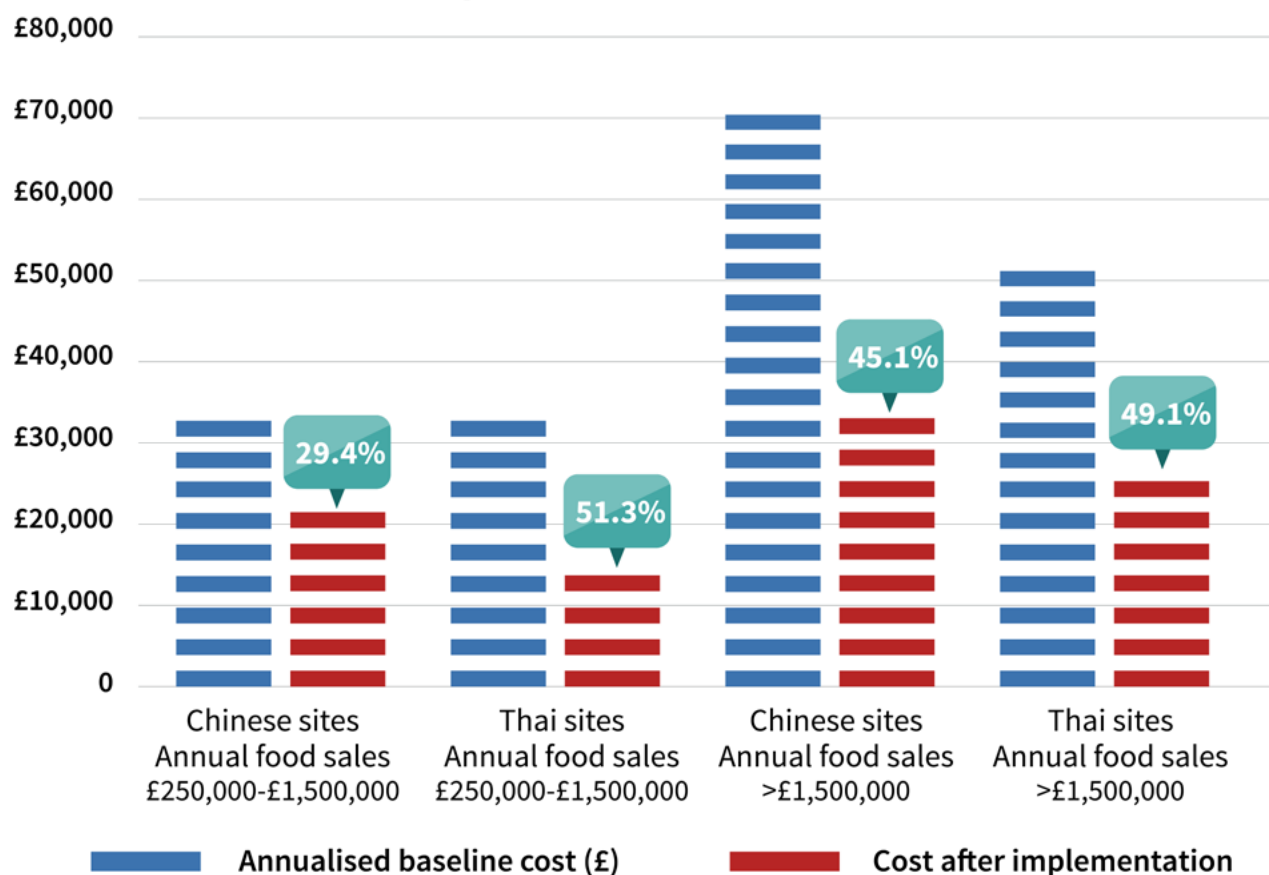


In the Asia Pacific, hotels with between £250,000-£1,500,000 in food sales annually saw a decrease of 57.9% in annualised food waste costs (as a percent of sales) after having implemented the System for six months. Hotels with greater than £1,500,000 in food sales annually saw a decrease of 52.3% in annualised food waste costs (as a percent of sales) after six months of implementation.

In the Asia Pacific catering segment, businesses having between £250,000-£1,500,000 in food sales annually, saw a 30.6% cost decrease after six months of programme implementation – compared to European caterers in the same segment seeing 36.1% cost decrease after six months.

Significant cost savings can be seen after six months of programme implementation in sites in China and Thailand. Across all segments listed below, sites experienced a decrease in the annualised cost of food waste of greater than 25% after six months.

### Chinese & Thai Sites Annualised Costs Before Implementation vs. After (6 Months)




According to this data by Winnow, the hospitality sector (represented by hotels and caterers) in the Asia Pacific region lags behind Europe in baseline amount of food wasted; however, greater percentage change is seen once a food waste reduction programme has been implemented. This may be due to greater opportunities in APAC to address the “low-hanging fruit” of food waste reduction in food and beverage; Europe leads the world in food waste reduction already.

These data from Greenview and Winnow, while selected for hospitality sector businesses that are already invested in sustainability practices and food waste reduction, show that enormous cost savings as well as food and resources savings can be made by implementing a food waste reduction programmes.

Indeed municipalities around the world are driving regulatory change. Though hospitality and tourism do not operate in a vacuum, there are few initiatives focusing solely on facilitating change in our sectors despite the enormous potential for positive impact. While efforts are being made across both public, private and non-profit sectors throughout Asia Pacific and around the world, more can be accomplished to reduce food waste, particularly with national governments facilitating infrastructure development to support food waste recycling, while introducing legislation and enforcing compliance.

# CHAPTER 3

## CASE STUDIES



*“This evening, I’m putting a ravioli on the menu that is braised lamb with a fine mince of diced spring vegetables and a little bit of ricotta cheese. But the lamb is left over from the braise last night, the vegetables are left over from extra prep in the kitchen yesterday, and we are cooking it today. So, essentially what I just described is ‘waste,’ but we are calling it a ravioli.”*

—  
**Dan Barber**  
**Chef, restaurateur, author**

### Alila Villas Uluwatu

[Alila Villas Uluwatu](#) in Bali aims “to respect and preserve the way of life and traditions of local communities and minimise [its] impact on the environment by adhering to a policy of environmental sustainability” as demonstrated by attaining the highest level of [EarthCheck](#) certification, and through support for two local foundations, The [R.O.L.E. Foundation](#), and [Bali Life Foundation](#) ([Alila Hotels and Resorts](#), 2019). The hotel’s food waste practices have helped save the hotel approximately Rp123 million annually (US\$8,600).

***“Waste is not the problem, pollution is the problem,  
and pollution is waste with no further purpose.”***

- Piet van Zyl, former Group Director of Engineering and Sustainability  
for Alila Hotels and Resorts

### Zero Waste



Images source: Alila Villas Uluwatu, 2018

Arguably one of Alila’s most impressive endeavours is its “[Zero Waste to Landfill Project](#),” implemented across all of its hotels. In the kitchen context, this means refraining from using plastic bags to collect food waste, conducting regular reviews of recipes and menus based on items’ selling power and guest preferences, using ‘ugly’ produce or produce nearing spoilage for pickling or signature custards, and recycling trimmings for stocks. Furthermore, unlike so many hotels in Asia, Alila Villas Uluwatu does not offer buffet service in its hotel; however, this does not seem to bother guests who appreciate the hotel’s daily changing breakfasts.

In the kitchen, waste is separated by category: organic, paper, glass, plastic, cans and other. Food waste is separated, measured using the [Winnow System](#), and is transported from waste rooms to the onsite recycling venue, the iSuRRF (Integrated Sustainable Resource Recovery Facility).

A shredding machine minces the compostable food waste along with organic waste from the

garden. The shredded waste is then placed on the composting floor in piles; each pile is turned every three days as part of the composting process. Reusable food waste is turned into fermented pig food; a local community member, with whom the hotel has had a relationship with since it opened in 2009, is paid to take the feed every month.



*Images source: Alila Villas Uluwatu, 2018*

To successfully implement the zero waste to landfill policy, the Executive Chef leads his team of 45 kitchen staff and 55 service staff – which handles the hotel’s 2 restaurants, each with about 80 seats, and which do a combined 240 daily covers – through daily food waste management processes. For example, banquet orders are carefully calculated in ingredients per person and ingredients are ordered per banquet event order, separate from the daily market list. Banquet ingredients are stored separately from regular produce and processed accordingly. Food is processed in bulk; therefore, temperature control is essential for maintaining its quality and shelf life. Excess food that has not reached the restaurant finds its way either into staff meals or is utilised for other purposes. Excess food returned from the restaurant is composted.

According to the Head of Operations - Alila Asia Pacific, Marco Groten, managing food waste is not without its challenges. During busy times, sometimes food waste reduction practices fall by the wayside. Inventory may also pose a challenge due to quality of foods delivered by suppliers, poor handling, inappropriate storage, or mislabeling. To tackle these problems, chefs and team leaders provide constant reminders to suppliers and provide continual refresher trainings to staff.

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## Cordis, Auckland

[Cordis, Auckland](#) by [Langham Hospitality Group](#) is a modern five-star hotel located in Auckland, New Zealand, featuring 411 rooms and suites, sophisticated dining venues, and spacious event venues. The hotel has one main restaurant, [Eight](#), which serves over 220 breakfast, 160 lunch, and 200 dinner covers daily. The hotel’s lobby lounge sees more than 200 covers per day, and its banqueting has capacity to serve approximately 800. Cordis, Auckland has over 140 service and stewarding staff, as well as 50 kitchen staff to manage the eight interactive kitchens at Eight Restaurant, the banquet kitchen, the in-room dining kitchen, and the pastry kitchen.



*Image source: Cordis, Auckland, 2019*

### Going Platinum

Cordis, Auckland prides itself on its leadership in sustainability; in 2016 Cordis, Auckland received EarthCheck Platinum status, the first hotel in Australasia to achieve this laudable level of environmental certification. In terms of food waste, Cordis, Auckland has been able to divert its food waste from landfill through the use of the [ORCA](#) technology, part of a zero food waste to landfill initiative they have been partaking in for the past year.

Since being installed in December 2017, use of the ORCA has helped to reduce the hotel's landfill waste by 70%. Food waste that is not being fed into the ORCA (e.g. bones or shellfish) goes to compost by an external company. The other significant step in implementing food waste initiatives on the property has been to create a mind shift for the chefs. By training them to use more from produce – using carrot peels or leek trimmings for soups for example, they are now more conscious about what ends up as waste. The coordinated involvement and support of leadership, including the Hotel Manager, Director of Food & Beverage, Sustainability Coordinator, and Executive Chef, the daily briefings, hands on trainings and constant communications with chefs and staff have played a large role in teaching them about how their actions have an impact on the hotel's waste and ultimately, the planet. Other measures taken to prevent waste include understanding the restaurants' highest and lowest sellers and managing inventory accordingly.



*Image source: Cordis, Auckland, 2019*

### History Repeats Itself

In terms of managing its kitchens, banqueting mostly serves plated lunches or dinners at events, limiting food waste. Anything ordered in excess is used at Eight, which is buffet style. Anything used on the buffets is disposed of after 90 minutes, as per [HACCP](#) rules. Over time, Cordis, Auckland has become adept at preparing what is required; any other leftovers are disposed of in the ORCA System.

At Cordis, Auckland, sustainability involves everyone, so the team is working with its suppliers to ensure that every step of the procurement cycle is considered. For example, its fish supplier already uses sustainable fishing practices, and its vegetable supplier reuses their cardboard boxes. For Cordis, Auckland, many purposeful small steps will create a long-lasting impact.

## Costa Cruises

For 70 years, [Costa Cruises](#) has been driven by the desire to discover the most beautiful destinations in the world. Promoting authentic experiences and encouraging guests to be more responsible travelers is an integral part of the cruise line's sustainable development approach. Costa has chosen to integrate sustainability into its business processes by investing in responsible innovation. An example can be seen in the new [LNG \(liquefied natural gas\) ships](#), powered by the world's cleanest burning fossil fuel. Sustainability has always been central for Costa: the company embraces multiculturalism and respect for the communities visited, creation of shared value, development of the reception system at the territorial level and sharing of development plans with the local communities of ports of call are integral to the company's strategy.

### Food as a Cruising Experience

The Costa fleet has fifteen ships total, of which four are designed and destined for Costa Asia. On average, Costa delivers 54 million meals per year, serving fresh food year around. The gastronomic experience is central to the cruise; Costa has chosen to engage in the creation of a sustainable food experience, aimed at raising awareness of the value of food on board.

Costa is the first company in the maritime sector to commit to reducing food waste by 50% by 2020 on board its ships. Applying innovative technological solutions in the kitchens to cut wastage is only part of the project, which focuses

directly on involving guests and crew on responsible consumption. Sensitization and education have been crucial to develop a consistent approach. With the [4GOODFOOD](#) programme, Costa aims to create a culture that sees guests as global citizens with a clear responsibility.

The food experience represents one of the attractions of the cruise. Cutting food waste in a complex and closed system requires modifying the food preparation processes, and the integration of innovative solutions to continually improve responsible consumption. Costa Cruises has put nutrition and food supply chains at the center of its sustainable development strategy, which has transformed its business. Integrating these elements in a holiday context within a highly multicultural environment requires a commitment that goes beyond the redefinition of menu and dishes preparation and likewise requires the involvement of guests and crew, to raise awareness on the importance of a balanced diet. On board its ships, Costa staff have been very engaged, thanks to a training programme on food waste. Staff are the cruise line's first ambassadors to deliver key messages and sensitise guests and appreciate the projects as they are the first to see in person the changes and improvements.



*Image source: Costa Cruises, 2019*

For Costa, giving food value also means reducing waste, starting from the food preparation process. For this reason, in what was a first for the cruise industry, [Costa Crociere](#) began a partnership with [Winnow](#), a company specializing in optimisation of processes in professional kitchens with the aim of ensuring continuous improvement and sustainability. The starting point for this project was to analyse and quantify the amount of food thrown away during preparation of meals; this was done using innovative technology enabling the measurement of food wastage and food losses. The operational plan included mapping of wastage at the food processing and preparation level by placing kitchen scales in each strategic area on the ship, weighing what was put in the bin and keeping a centralised record of the different food categories. This made it possible to determine the level of wastage at each stage of the food preparation process: excess products past their best before dates, food – such as fruit and vegetable peels – thrown away during actual preparation, mistakes while cooking in the galley, food prepared but not served, uneaten food on guests' plates, and so on. The data collected and analysed was used to review and reshape Costa's food preparation process and determine what best actions were to be implemented in order to train and engage crewmembers working in the culinary area.

Costa Cruises has installed digital scales in all kitchens, allowing chefs to weigh and categorise food waste. Thanks to this process, all food waste is mapped and inserted in dashboards daily provided by Winnow. The mapping allows Costa chefs to take actions and make changes where correction is needed. Behavioural changes in the kitchen are crucial for improvement.

### Surplus food donation



Image source: Costa Cruises, 2019

Costa Cruises leveraged [Italian Law no. 166/2016](#) (or, “Gadda Law”) to provide an outlet for the surplus food produced on board its ships, capitalising on this for social betterment. Costa devised a scheme that is a first for shipping (both in Italy and globally) where the specific blueprint for the preparation of the surplus food for offloading was designed in close consultation with the local Customs Office and the local Border Control Public Health & Safety Agency. Partnership with the [Food Bank Foundation](#) grants Costa an international distribution network, guaranteeing food donations to the associations selected in the ports of call.

Working with local governments, collaboration with ports, local authorities and communities have been essential to the development of the food disembarkation scheme. The project with the Food Bank Foundation implies a dynamic approach to the different realities that Costa may face when entering a new port. In Italy, Costa Crociere established a partnership with the European Food Banks Federation ([FEBA](#)) as a reliable partner with a wide network. For this project, Costa Crociere devised a blueprint where every time a ship approaches a new port to implement the disembarkation of surplus food project, they also approach the local Customs agency and the local Public Health & Safety agency.



This initiative began in July 2017 and has now disembarked and donated 100,000 portions. (A meal refers to a full set of food options, which requires a complete list of starters, main course, desserts. The type and amount of surplus food, which always comes already cooked from the night before and it is “ready-to-eat,” can vary from night to night. Ten ports (Savona, Civitavecchia, Bari, Palermo, Marseille, Barcelona, Point-à-Pitre, Fort-de-France, Trieste, Genova) entered the programme where, for the first time, France and Spain joined the initiative following the Italian blueprint. Through the Food Bank Foundation, Costa is donating surplus food to twelve associations reaching about 800 beneficiaries. Costa is finalising the procedures to grow the initiative to other ports in the Mediterranean and in South America.



Image source: Costa Cruises, 2019

### Guest Engagement

The launch of the campaign [TASTE DON'T WASTE](#), designed to encourage guests to consume responsibly, is part of Costa's food waste reduction programme and aims to consistently reduce wastage while enhancing the relevance of the value of food. Sharing Costa's new food philosophy has been essential to long-term success. Interviews that have been carried out on board by a third party confirmed the high level of engagement and interest in Costa's commitment. Guests' engagement level to reduce plate waste will be calculated thanks to the database managed by the Winnow system. The savings related to guests' plate waste will be equally re-invested both in food quality and in supporting the [Slow Food Foundation for Biodiversity](#) project, granting the development of responsible farmers' network engaged in biodiversity and sustainable agriculture.

In terms of environmental impact, the reduction of food waste in the kitchen impacts efficiency and productivity. Since the programme began in 2017, the overall fleet-wide reduction in food waste has reduced by 35% (as of February 2019) The fleet has also seen an overall plate waste reduction over 37%.

Crewmembers show high engagement and appreciation for the initiative. As well, over 90% of the guests welcome the initiative. In fact, the Net Promoter Score (NPS) - a tool to measure customer satisfaction and loyalty – has increased 2%

With such scale, not only does food waste prevention and reduction impact processes, it also creates direct benefits for the communities in which the surpluses are donated; the reduction directly impacts the amount of greenhouse gases created as a result of dining aboard a cruise ship.

### Conclusion

Costa encourages those who are seeking to begin their food waste journey to embed sustainability into their business models as an imperative first step. For Costa, sustainability is embedded in their business model and is part of the company's DNA. Costa is recognised as a leading company in the industry and its ships have become ambassadors of sustainable development.

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### Easia Travel

At [Easia Travel](#), sustainability is placed at the core of its actions, “not as a trend, not as a sales tool, but rather as an utmost necessity” ([Easia](#), 2018). In its Luang Prabang office in Lao PDR, sustainability began with the development of a sustainability policy, making sure that sustainable practices were embedded in each department and its general procedures. By pursuing [Travelife for Tour Operators](#) environmental certification, Easia is working to ensure that it always complies with the highest international standards for sustainability and corporate social responsibility. It is also providing leadership through participation in the [elephant welfare initiative](#), and in the [ChildSafe Movement](#).



## “Feed”-back

In relation to food waste, Easia found that its clients, (primarily French, German, Italian, British and American; Baby Boomers and Gen X, aged 45-70), complained that portions are too big and that too much food is wasted. Due to this feedback, Easia has taken steps to make some changes.

Being a tour operator, Easia does not prepare food for its clients – its suppliers do. As such, Easia contacted the hotels and restaurants they work with to notify them of the feedback. At first, the suppliers were confused, not understanding why “too much” is an issue. The first step was therefore to raise awareness about food by having discussions with suppliers about the portions and types of food served.

During these discussions, Easia helped its suppliers understand the importance of knowing guest preferences. For example, Easia found that its Italian clients prefer to have one Western meal a day, usually dinner. This preference impacts food waste – when dining locally, three to four dishes are served family style, so there is less plate waste. With Western food, each person has his or her own pre-portioned plate. The breakfast meal also poses a problem: local hotels give guests many choices with the belief that such diversity is always good. This tactic, however, often equates to more waste; the solution is that hotels simply need to offer the right choice.



Easia is working to tackle the breakfast issue by suggesting small changes to start. For example, they have found that guests do not like the jams served in single serving plastic containers; they prefer to try local seasonal jams such as tamarind or pineapple. Implementing this change would be cheaper and more environmental than importing jams. Giving guests exposure to a unique local product can also help to create a stronger impression.

With regards to itineraries, some include a meal in local restaurants, a picnic, or an experience dining with a local family. Easia’s least favoured option is to have a packed lunch due to the amount of waste coming from both packaging and individual portions.

## Cooperation Makes it Happen

In addition to discussions with individual suppliers, Easia organises a monthly meeting for general managers in Luang Prabang on the topic of sustainability. Usually 15-20 destination management companies (DMCs) and 20-30 hotel representatives attend these meetings. Easia notes that although sustainability should be embedded across all practices, they cannot force the suppliers to comply – at least not yet. Until then, the tour company will help raise awareness among its suppliers and provide them with the tools they need to achieve sustainability.

Easia is also taking steps to tackle food waste in its office. Its Luang Prabang location has a small garden, in which they grow local fruits and vegetables, including papaya, mango, and jackfruit. Staff often cook and eat together and are sure to separate waste. Coffee grounds are repurposed in the garden, thanks to its high nutrient content and ability to be used as a soil supplement.

In the future, Easia plans to continue its collaboration with its suppliers and will continue to solicit feedback from its clients. The tour company is now in the process of updating questionnaires that will be administered to suppliers in the low season and will include sustainability questions, specifically with relation to food waste.

### Frangipani Langkawi Resort & Spa



Image source: Wong, 2019

The [Frangipani Langkawi Resort & Spa](#) is a green property located on the Malaysian island of Langkawi. Since its establishment in 2005, it has been a sustainability-driven property, and has garnered a number of prestigious awards, including the ASEAN Green Hotel Award in 2014.

The resort is targeting zero waste where all organic and non-organic products are recycled to prevent them from going to landfill. Food leftovers make up over half of the local landfill composition, as Langkawi an island where tourism are among the main income generators ([Wong 126](#)).

#### A Use for Everything

At Frangipani Langkawi, Executive Chef Shamsul Azham practices food waste reduction in his kitchen at the Mentari Grill, the resort's intercontinental restaurant and bar. His team uses seven bins to segregate different types of waste: rice, bread, fruits and vegetables, paper, bottles, cans and other food waste. Paper, bottles, and cans are recycled or upcycled (e.g. bottles are used for decoration as there is no other monetary value for bottles in Langkawi currently). Fruit and vegetable scraps from food preparation are used to make "[garbage enzymes](#)," a multi-purpose cleaning solution. (Mentari Grill's produce trimmings make enough of the enzyme for the resort's own use.) Leftover rice is fed directly to livestock; these animals are in turn prepared and served to guests. Mixed scraps are used for composting, which is then used for gardening.



Image source: Anthony Wong, 2019



Image source: Anthony Wong, 2019

Not only does Frangipani use the compost for gardening, the resort is also raising black soldier flies, feeding the compost to the larvae. And when the larvae become pupae, they can be fed to the chickens, ducks and fish. The maggots may also be fried for human consumption.

Nutritionally, insects are approximately ten times more efficient as a source of protein than cattle, and provide more mineral content, amino acids, fibre, and require significantly less resources (land, water and feed) to produce. What's more, "rearing insects is about 100 times more environmentally friendly than raising cattle" cited Wong, noting also that insects produce significantly less excrements than cattle and require fewer resources for transportation ([Sjøgren 2017](#)).

As a next step, Frangipani is learning how to breed BSFL by the millions. They are currently expanding facilities to grow maggots, which they intend to sell back to local farmers as animal feed. In order to produce enough compost, Frangipani has begun collecting food waste from nine other hotels and restaurants in the area. Altogether, Frangipani collects 200-300 kg daily from other restaurants, to supplement the 50-100 kg of food waste collected on its own property.

### **Making the Most of Compost**

To boost compost production, Frangipani is also working with the Malaysian Ministry of Housing and Local Government (which is, among other things, responsible for solid waste management) to develop new centres to collect food waste all over the country. Frangipani is also running organic farm courses to teach local farmers how to make use of food waste that can be used for creating compost and organic farming. They have also been conducting free monthly courses on food waste management for other hoteliers on the island, with the aim of building up a coalition of donors for their compost. The key, they say, is separating waste at the source.

Managing Director of The Frangipani Langkawi Anthony Wong estimates that the resort is able to save approximately Rm20,000-25,000 (US\$6,000) annually by practicing food waste initiatives. Over all, green hotel practices can help to save 20-30% of the property's operating costs.

In addition to taking measures to divert food waste to landfill, Chef Shamsul and his team take preventative measures in the kitchen, such as educating staff and exercising portion control on all recipes. Most importantly, the kitchen practices waste separation. It has been difficult to educate employees to separate food waste; there is a constant need to keep reminding staff to do so. Building this practice into the culture of the organisation has been essential.

Wong and Azham agree – every department must understand and collaborate to ensure



Frangipani's sustainability success. Currently there are three staff in the Environment Department who work collaboratively with the property's Landscaping Department, which runs the organic farm. The Engineering Department handles water and is responsible for implementing water saving measures and irrigation for the farm. Then there is the Food and Beverage Department, which cooks and serves the food from the garden, and also manages waste separation in the kitchen. It truly takes everyone on the team to make it work. Together, and through constant communication, Frangipani's team tackles lack of know-how, raises the level of civic consciousness, and increases awareness on environmental issues to inspire change.

### **A side note on Frangipani's sister companies:**

[Asian Overland Services Tours & Travel Sdn Bhd](#) (AOS) [believes in sustainable development and environment conservation](#) to preserve biodiversity, nature, wildlife and their natural ecosystems. AOS aims to promote green awareness among its stakeholders by advocating ecotourism and by continuously embedding green practices in its business. In the context of food waste, this means redistributing excess food from suppliers whenever possible; however, food safety and lack of indemnity still place limitations on this process that is still being developed.



*Image source: Anthony Wong, 2019*

[AOS Conventions & Events](#) is a professional conference organiser (PCO) and destination management company (DMC) that includes green meetings in its mission. As conferences have excessive waste due to the difficulty in planning for meal attendance, AOS Conventions & Events coordinates with an onsite logistics company or specialist to arrange for a refrigerated truck to transport and redistribute excess food.

Grand Hyatt Singapore has been implementing food waste reduction initiatives and sustainable practices since 2010 to protect the planet for future generations while appealing to the needs of today’s modern travelers.



*Image source: Grand Hyatt Singapore, 2019*

### Food waste prevention

Under the direction of Chef Lucas Glanville, Director of Culinary Operations for Grand Hyatt Singapore and South East Asia, Grand Hyatt Singapore has achieved ISO 22000 for its efforts in the consumption of water and energy, including the management of general and food waste.

When Grand Hyatt Singapore first started on its journey towards sustainability in 2010, the hotel was using more than 600 different seafood items. By working closely with the chefs to refine the menus and ensure effective management of the procurement process, the hotel has successfully reduced the number of seafood items to 100 in 2018 while maintaining the same quality that is expected by diners at Grand Hyatt Singapore.



*Image source: Grand Hyatt Singapore, 2019*

Hyatt properties in South East Asia have also made the switch to sustainable seafood following an in-depth review of its menus, origin of ingredients as well as fishing methods. All unethical and socially unacceptable products such as Bluefin Tuna and shark’s fins have been removed from the hotels’ menus. Grand Hyatt Singapore’s efforts were recognized in 2015 when it achieved the [Marine Stewardship Council \(MSC\) chain of custody certification in 2015](#).

Cooking methods were also reviewed to identify the most efficient use of all ingredients, such as the implementation of “nose to tail” cooking philosophy to ensure that the entire plant or animal is used with very minimal wastage. This is made possible with the wide variety of cuisines that are available at the hotel, for instance the leaves of broccoli are stir-fried for a Chinese dish, stalks for Western cuisine soups, and the florets for special dishes.

Buying the whole plant – from an [organic farm in Malaysia](#) – is also more economical than buying the plant in parts, and farmers benefit as they are able to sell more of their produce. More importantly, this has allowed Grand Hyatt Singapore to manage food waste at the source, and reduce overall food waste from 1,000 kg per day in 2010 to 300 kg per day in 2018.

### Diverting food waste from landfill



Image source: Grand Hyatt Singapore, 2019

As a hotel with more than 600 rooms and 5 restaurants commanding 3,000 to 5,000 covers daily, substantial amounts of food waste are generated. To manage this, Grand Hyatt Singapore installed an in-house food waste management plant in 2016 to convert all food waste into pathogen-free fertilizers that are used in green spaces in the hotel, including the hotel's rooftop herb garden.

The food waste management plant is a combination of two systems: the first is the [Meiko](#) system, a 300 metre vacuum waste structure connected to the hotel restaurants and kitchens that receives all food waste, and the second is the [Biomax](#) food waste digester that extracts all water content from the waste and converts it into organic fertilisers.



Image source: Grand Hyatt Singapore, 2019

This project has helped Grand Hyatt Singapore save approximately US\$100,000 annually in food waste haulage fees and various operational expenses. By eliminating the need for food waste haulage, the hotel has also reduced its carbon footprint and kept more than 400 tonnes of food waste from landfill.

Excess food in the hotel, such as untouched food prepared for an event or buffet, are kept at appropriate temperatures and picked up by [Food from the Heart](#) (mainly breads and pastries) and [Kerbside Gourmet](#) for redistribution to [South Central Community Family Service Centre](#) as part of their food donation drive. To date, the Hyatt has donated about 7-8 tonnes of food.





*Image source: Grand Hyatt Singapore, 2019*

## Challenges

Singapore's ideal geographical position has enabled restaurants to import seasonal products from all parts of the world. This has however resulted in the lack of consumers' understanding of where food comes from, and a lack of appreciation for local food products and producers over "premium" imported products. To address this, Chef Glanville's culinary team works closely with Grand Hyatt Singapore's marketing team to communicate the food journey to guests through story telling on social media, and during their interactions with guests as they dine.

## Doing something right

In addition to initiatives in food waste management, food donation programmes and sustainable seafood, Grand Hyatt Singapore has strengthened its commitment towards sustainability by being the first establishment in South East Asia to launch a number of 100% plant-based options.

Not only does these new advancements in food technology allow vegans and non-vegans to dine together, but it also encourages healthy eating with a consciousness.

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## Jetwing Hotels

### **You will not find any orange juice, apples, nor salmon at Jetwing.**

Founded in the 1970s by tourism pioneer and visionary, Herbert Cooray, [Jetwing Hotels](#) embodies Sri Lankan warmth, hospitality, and community. According to grandson and third generation hotelier Dmitri Cooray, for Herbert, local community was very important. What he instilled in the company policy was to ensure that the hotel works closely with its neighbours and staff. Implementing an open-door policy, all staff are welcome to approach Jetwing's highest levels of management, including the Chairman. This is also symbolised in Jetwing Hotels' lack of gates, boundaries, or fences. Locals are welcome to sell handicrafts to guests – one of the many ways Jetwing supports its community.

The value of the local community is evident in Jetwing's kitchen procurement policy: source as much as possible locally. Jetwing does not import any fruits, vegetables, or proteins except for beef and lamb (due to the fact that high quality beef and lamb are not available in Sri Lanka). All seafood is caught locally. By only focusing on the local, Jetwing receives fresher products and has reduced its inventory. Subsequently, it has also reduced food spoilage, which is exacerbated by the tropical climate and transport. Ninety percent of Jetwing properties are within 30-60 minutes of its supply.



## Managing inventory

Ordering local produce based on occupancy and demand also means being able to order smaller quantities so produce won't ripen and spoil as quickly. Food is always ordered based on the week's forecast. For Jetwing hotels that don't do banquets, orders are based on room forecasts. Perishable items are kept in stock for a few days, while dry rations can be ordered in bulk. Jetwing guests are also given the option to book meals (e.g. breakfast only vs. full board), which also helps to manage inventory.

Chefs – many of whom have been with the company for over 5-10 years, are responsible for quality and costs. They are mindful and are given targets and incentivized to manage inventory well. Hotel performance and team performance can be tied to financial compensation, but above all, Jetwing builds environmentalism and accountability into its company culture. On each property, chefs have the liberty to create menu items in their own style – the only restriction is that they may not serve imported or canned foods.

## Service

For the most part, Jetwing restaurants offer set menu or à la carte options only. They do, however offer breakfast buffets at some of its properties, which for their largest property, Jie Jie Beach by Jetwing, (180 rooms) at 70% occupancy, does about 300 covers. Due to the cultural demand, Jetwing also does Saturday dinner buffet and Sunday brunch buffet. Six of its 23 hotels do not serve buffets at all.

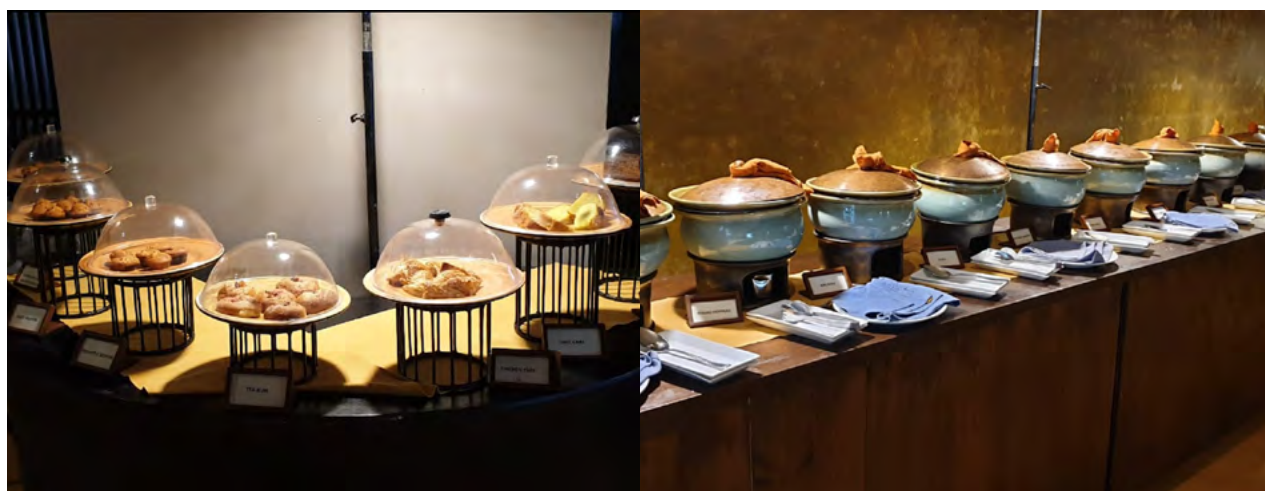


Image source: Jetwing Hotels, 2019

In order to manage food wastage during buffet service, Jetwing utilises live cooking stations, reducing over-consumption by guests and minimising pre-cooked food left on the display. Pastas, eggs and special orders are cooked à la minute.

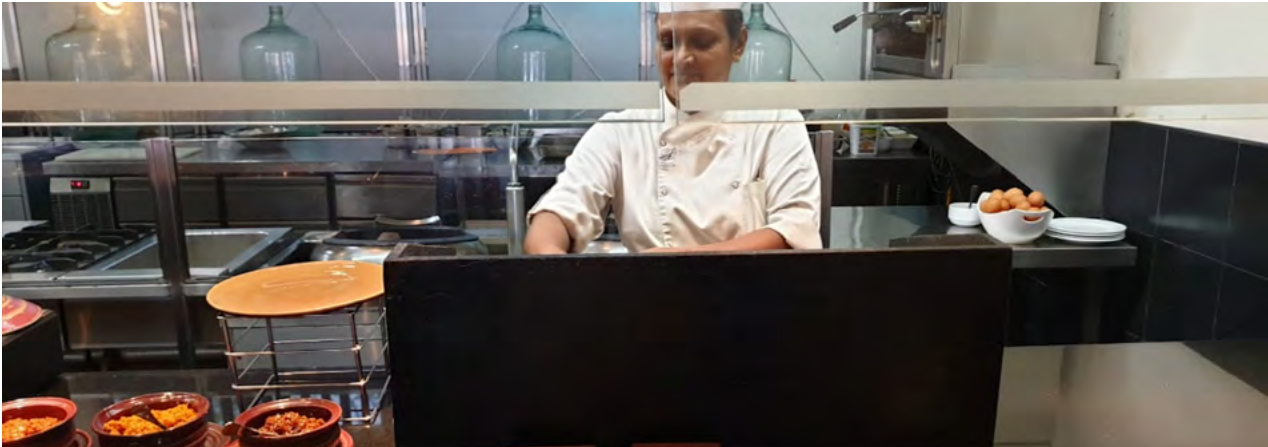


Image source: Jetwing Hotels, 2019

Of course, waste is drastically less in smaller hotels – particularly when they do not host large functions. At Jetwing, and in Sri Lanka, Cooray estimates that 95% of weddings are buffet. As in much of Asia, buffets and large banquets are a part of the culture in Sri Lanka, and guests like to see many (often up to 30) options. This is where most of the wastage happens. For large banquets that host 500-600 guests, most dishes are precooked. In such instances, Jetwing works to minimise waste by using smaller serving dishes, thereby having less food out by volume, and refilling the serving plates when they become empty.

### Awareness

Cooray admits it's very difficult to control guest consumption. The mindset is that if the guest has paid for the buffet, they have the right to make the choice about what and how much to eat.

### Leftovers and plate waste

In general, food waste is either composted on site for fertiliser and gardening, or collected to feed pigs at piggeries.

In 2018, Jetwing averaged just over 53,000 kg of food waste per month across all its properties. Of that, it used on average, nearly 7,000 kg/month for compost, used nearly 16,000 kg/month for biogas, and sent over 26,000 kg/month to local piggeries.

Above all, Jetwing is proud of its local heritage and tradition. Not only are 70% of staff hired locally, Jetwing's impact extends to the [Jetwing Youth Development Programme](#), which has trained over a thousand local youth (aged 17+) in English and hospitality skills. When it comes to food, the hotel chain proudly serves majority Sri Lankan food and produce – something none of the other large Sri Lankan chains do. Jetwing gives guests the experience of local cuisine, something foreign customers really appreciate.

Jetwing's staff cafeterias provide three meals a day. This equates to about 7,500 meals eaten in the staff cafeteria daily in the group. Staff can eat as much as they want, but they *must* eat what is on their plates. If they don't clean their plates, they will be charged. Plate scrapings are measured at the end of the day to tally how many people who could have been fed. After introducing this system, Jetwing has seen a significant reduction in cafeteria waste.

### Sustainability at its core

Environmentally, Jetwing has always been a leader in Sri Lanka. Until the 1990s, hotels were not required to have wastewater treatment plants – all the hotels simply dumped their sewage into the ocean. Jetwing Blue was the first to introduce a sewage treatment plant and recycled water. Jetwing was also the first to introduce solar panels in two of its properties, which now generate 40% of the hotel's electricity requirements at Jetwing Lake and Jetwing Yala. In 2018, Jetwing produced over one million kwh of solar energy, thus avoiding nearly 700 metric tonnes of carbon dioxide emissions.

The hotel chain has also responded to Sri Lanka's lack of recycling facilities by building six glass bottling plants of its own in order to reduce the use of plastic bottles. In 2018, the glass bottling facilities helped to eliminate nearly 3.5 tonnes of plastic waste that would have otherwise come from plastic bottles. Jetwing also utilises biogas to assist with energy needs: the inner bark of cinnamon – a waste product of cinnamon that is harvested twice a year in Sri Lanka, and purchased from local farmers – is used for fuel for biogas boilers. The boilers generate steam, which goes into an absorption chiller, the energy of which is utilised for air conditioning and laundry.

### Luang Prabang Handle With Care

Luang Prabang, a UNESCO World Heritage Site situated in Northern Lao PDR is home to approximately 80,000 people, yet it sees 650,000 arrivals annually. This small town has approximately 300 guesthouses, 70 hotels, and about 70 registered seated restaurants (Hofman, 2019).

The [GIZ](#) project “Luang Prabang – Handle with Care” was a short-term project implemented from 2016-2019 under the [EU SWITCH ASIA II Programme](#), that addressed the challenges brought about by the growth of tourism in Luang Prabang (Janus, n.d.). The project worked to strengthen local capacities to implement responsible activities related to socio-cultural, environmental and economic sustainability, and aimed to assist the local private tourism sector to develop new sustainable tourism practices.

In terms of food waste, the project looked at what to do with food waste and came up with a solution to work with the local government agency, the Urban Development and Administration Authority (UDAA), to create compost from separated food waste.



Image source: Luang Prabang Handle With Care, 2019

Building on the previous work of Japan International Cooperation Agency (JICA), GIZ began working with local hotels and restaurants to collect food waste. Over the course of three years, the project increased food waste collection from two to five days a week.

On average, the food waste collection truck can hold about 20-30 bins per collection, with each bin containing up to 40 kg of food waste. During the high tourist season, the truck can collect about 5-7 tonnes of food waste from 40 hotels and restaurants each week.

2017	2019
Collecting food waste from 16 hotels/ restaurants 2x/week	Collecting food waste from 40 hotels/ restaurants 5x/week over 2 routes



Images source: Luang Prabang Handle With Care, 2019

GIZ provided further guidance and support to UDAA by helping to improve the quality of compost created from the collected food waste from hotels and restaurants developing better packaging for it, and by assisting in marketing efforts. The UDAA created compost that is now sold to agricultural supply stores and local farmers, and to hotels for their gardens. Funds generated from the sales of compost can be utilised to fund labour, equipment, and gas, which effectively makes this activity financially sustainable. Farmers who use the compost to grow crops may also sell their produce back to the hotels, which in turn sell food to tourists, thereby closing the loop.

Under this project, larger hotels are also encouraged to have gardens to make compost on site. GIZ has provided training to these hotels on how to create compost. GIZ connects organic farmers with hotels so that they can form a network where farmers collect food waste from hotels and restaurants to make compost for their farms that produce organic products, which then supply back to hotels and restaurants.



Image source: Luang Prabang Handle With Care, 2019

For now, the UDAA has capped its number of participating restaurants and hotel partners due to its own food waste carrying capacity, but there are many lessons learned. By focusing on only Luang Prabang, it is possible to test out the whole value chain on a smaller scale; this project has proven to be very successful and offers many lessons to be learned by other destinations that do not have non-profit food banking or redistribution partners.

## Bangkok Marriott Marquis Queen’s Park

[Bangkok Marriott Marquis Queen’s Park](#) located in Bangkok is Thailand’s biggest five-star property. With 1,388 rooms and 10 food and beverage outlets, the hotel has a very large food footprint, and with it, the power to make a sizeable impact. According to [Executive Senior Sous Chef Daniel Bucher](#), over the past year, Bangkok Marriott Marquis Queen’s Park has been working to conduct its food business as sustainably as possible.



Image source: Bangkok Marriott Marquis Queen's Park, 2019

### Food waste management

In line with the [company's dedication to CSR](#), Bangkok Marriott Marquis Queen's Park is committed to helping eliminate hunger and malnutrition, promoting sustainable production and consumption of food, and reducing global climate change caused by food waste. Incentivised by subsidies from the [Thailand Convention and Exhibition Bureau](#) (TCEB), the hotel began a food waste management

programme overseen by [LightBlue Environmental Consulting](#), and within three and a half months of implementing the programme at its main all-day dining restaurant, Goji (over 1,500 covers daily), the hotel saw a food waste reduction of 27.4 tonnes, or 294 kg per day. The practice has also saved 68.4 tonnes of CO<sub>2</sub> emissions during this period. ([Bangkok Marriott Marquis Queen's Park](#), 2019).

Bangkok Marriott Marquis Queen's Park began measuring its food waste through simple scales and Excel sheets and found that it was throwing away approximately 1.2 tonnes of food from its buffet daily. The hotel plans to implement the programme throughout the whole property this year.

### You've measured, now what?

According to Chef Bucher, "It's impossible to get anything done unless you get people on board. Whoever is working on food preparation, they are the people that actually have to understand." The focus of their programme has therefore been to increase the awareness of food waste issues. Staff incentives and awareness raising efforts such as visiting a local farm, or holding an event in the staff canteen with local celebrities has helped improve their food waste consciousness.



Image source: Bangkok Marriott Marquis Queen's Park, 2019



Image source: Bangkok Marriott Marquis Queen's Park, 2019

"With 150 chefs at the hotel, if it's extra work, you have to be convincing about why you have to [manage food waste]. It means doing things you weren't doing before," says Chef Bucher, who is working hard with his team to improve workflows and food waste management practices. "[Staff] understand why we're passionate about it, and it makes them more connected to the workplace because they're proud of where they're working," he says of his staff, also implying staff engagement's impact on turnover. Food waste is now included in staff orientation as it is an integral part of the job.

## Prevention, diversion, innovation

Bangkok Marriott Marquis Queen's Park has chosen to focus on supply and supply chain management, finding local organic farms to source from directly. By cutting out the middle man, the hotel has improved product quality while getting a better product for the same price. Having a close relationship with local farmers, the hotel is able to influence harvest and sustainable agriculture practices.

According to its [Sustainability Report](#), the kitchen uses every cut of meat and poultry without any waste. Trimmings and bones are used in gravies, sauces and stocks. Whatever is carved off at the serving station is roasted and reused in *jus*. In total, the hotel reports that they use approximately 280 kg of bones and trimmings to produce 75 liters of beef *jus* and 30 liters of chicken gravy every week. They also explore creative ways for their kitchen to reduce food waste, from using pineapple skin to create a signature pineapple and passion fruit gin cocktail, to repurposing hard-boiled eggs or bread left over from breakfast.

At Bangkok Marriott Marquis Queen's Park, food waste that has been successfully separated will go to a piggery; [Scholars of Sustenance-Thailand then picks up](#) edible food waste that has been properly handled according to HACCP practices. The organisation is currently collecting approximately 40 kg of donated food per day from the hotel. Bangkok Marriott Marquis Queen's Park is also working with [Raitong Organics](#) to develop a water treatment system using over one tonne of oyster shells thrown out per month. The water is used for growing organic rice. Broken rice is sent back to the hotel, which now has a signature "broken rice" dish at Goji.

## Last thoughts

Another innovative way Chef Bucher and his team reduce food waste in the buffet is to conduct a monthly "buffet clearing food table," where after the buffet service is over, the food is set up again for the team, including both kitchen and service staff, which samples the food and analyses what remains. They discuss how food can be recycled, what can be prepared differently, how to prevent overproduction, what menu changes should be made, and different ways to prevent buffet waste.



Image source: Bangkok Marriott Marquis Queen's Park, 2019



Image source: Bangkok Marriott Marquis Queen's Park, 2019

### The Last Frontier

Communicating with guests is what Bucher calls the “Last Frontier,” something they are just starting to work on. This is a difficult subject to broach, and the approach, he says, must be feel-good, and must have a story. For example, through positive buffet signage, the team is now starting to highlight zero waste food items, such as the broken rice.

Chef Bucher reminds us that “First and foremost we are chefs at a high-end restaurant. We feed people and we want them to have a good time.” He attributes food waste partly to the fact that food is now a much more global experience, and we have grown more accustomed to high quality food that did not exist 50 years ago. In Bangkok, restaurant concepts are increasingly focusing on sustainability, for example, by experimenting with hydroponics, supporting local suppliers, or committing to zero waste. This approach sells, and is growing in popularity. Bucher adds, “When things happen in Asia, they happen quickly.”



Image source: New South Wales Environment Protection Authority, 2019

### New South Wales Environment Protection Authority - Organics Infrastructure Fund

Recognising that nearly half of household waste destined for landfills in New South Wales, Australia consists of food and garden organic waste, the state’s [Environment Protection Authority](#) has taken great measures to encourage its residents and businesses to waste less – specifically when it comes to organics.

The [Waste Less, Recycle More](#) initiative provides AU\$802.7 million (US\$570 million) to reduce the amount of waste sent to landfill and increase recycling. One of the priorities under Waste Less Recycle More is the [Organics Infrastructure Fund](#), supporting education programmes on avoiding food waste, expanding collection and processing, increasing food donation, and developing new markets.

#### Organics Collections (AU\$10 million)

The Organics Collections programme provides AU\$10 million (US\$7.1 million) of funding over four years for new or enhanced kerb-side collection services for food and garden organics waste. This funding supports collection services for residents and business and for trials in multi-



unit dwellings, to help overcome the barriers to collections in units. The programme's focus is on infrastructure and ensuring funding is available for bins, kitchen caddies, and education. Previous rounds awarded AU\$24.4 million (US\$17.3 million) to 59 projects to introduce new or improved services to 405,000 more households, as well as businesses, diverting an additional 178,000 tonnes of food and garden waste from landfill each year.

### Organics Infrastructure Grants (AU\$14M)

This programme provides AU\$14 million (US\$9.9 million) in infrastructure and supports grants of up to AU\$3 million (US\$2.1 million) to increase organics processing capacity in NSW through new or expanded facilities. Under this grant programme, funds support food donation 'infrastructure' such as fridges and vans. So far AU\$4 million (US\$2.8 million) has been allocated to 28 projects to collect and redistribute an additional 8,500 tonnes of surplus food per year. AU\$51 million has been awarded to 75 projects also funded under this grant, to increase organics processing capacity in NSW by an additional 630,000 tonnes per year.

### Organics Market Development Grants

This programme provides AU\$7.3 million (US\$5.2 million) in grants spanning over nine years until June 2021, supporting new markets for recycled products. The goal is to drive increased supply and to support the industry in building markets for recycled products. So far, AU\$5.4 million (US\$3.8 million) has been allocated to 38 projects to increase markets for compost, including agriculture, horticulture, sporting fields, mine rehabilitation, and carbon sequestration in soils.



*Image source: New South Wales Environment Protection Authority, 2019*

### Love Food Hate Waste

Arguably the initiative most relevant to tourism and hospitality is "[Love Food Hate Waste](#)," which aims to raise awareness of food waste, and help NSW households and businesses reduce the amount of wasted food sent to landfill. With AU\$3 million (US\$2.1 million) in grants available to June 2021, AU\$1.6 million (US\$1.1 million) has already been allocated to 54 projects to educate households and business on ways to reduce food waste.

Within the Love Food Hate Waste programme, the NSW EPA developed "[Your Business is Food](#)" – an education programme for food businesses. Before rolling out this programme, the NSW EPA conducted a pilot study with cafés and restaurants. What the NSW EPA found was that without the impact of seeing the actual waste, there was no evidence and therefore no measurement and no motivation to do anything about the waste. The pilot also found that businesses needed advice and campaign materials to change behaviours towards spoilage, kitchen waste and plate waste.

The NSW EPA found that when businesses feel that positive change is within its control they become motivated to reduce food waste. Another motivating factor is when a business realises that focusing on food waste prevention can help to cut time, staff costs, as well as waste collection costs.

This pilot project was quite successful, with an average 21% reduction in food waste. As a result, the NSW EPA have been rolling this out state-wide through the Love Food Hate Waste grants programme. It will now be expanding Your Business is Food over the next few years to target new sectors.

ORCA



Image source: ORCA, 2019

Organic Refuse Conversion Alternative (ORCA) is a technology alternative for food waste diversion. Simply put, it is a food waste technology that mimics a natural digestion process and provides an alternative to waste disposal. The ORCA aerates food waste, using microorganisms, oxygen, and water, to break food down to its most finite form. What remains is nutrient-rich grey water that can be sent to wastewater treatment plants through existing municipal sewerage systems.

**An alternative to garbage trucks**

The ORCA, which currently comes in four sizes to fit varying space requirements and amounts of food waste, reduces traditional waste disposal to just a couple of steps. For hotels, this means eliminating the need for trucks to haul waste (and therefore eliminates their CO<sub>2</sub> output and impact), eliminating odours and pests, reducing the human resource element of moving large garbage bins and collateral damage of moving the bins (e.g. bin leakage, door dings, etc.), and greatly diminishing the amount of food waste ending up in landfill.



Image source: ORCA, 2019

Running the technology only requires 0.43 KWh for its smallest and 1.2 KWh for its largest ORCA, and can digest anywhere from 360 lbs to 2,400 lbs of food per day. Setup and installation is simple: it only takes about 30 minutes and can be plugged into 110-220 v outlet, requiring only a cold-water line and sanitary floor drain.

The economic benefits mirror the environmental benefits of partnering with ORCA – ORCAs are available for either purchase or rent. The savings on a rental are immediate and ongoing. Some clients report a payback in just over a year.

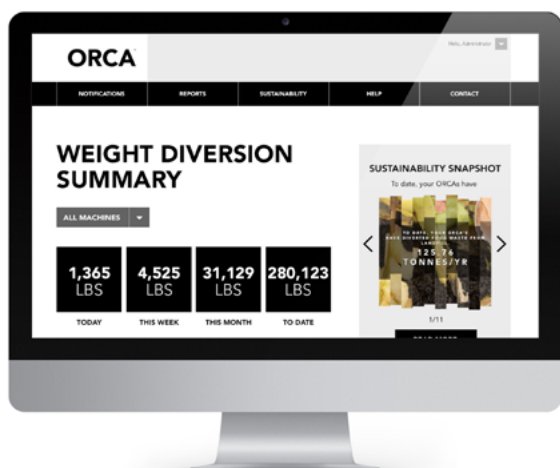


Image source: ORCA, 2019

When taking accurate measurements is necessary to making the first step in reducing food waste to landfill, the ORCA is able to record the weight, time, and date of food it takes in. It can also be programmed to provide data on who deposited the food, and information on food cost control and procurement, reporting, compliance, marketing, and sustainability metrics. This information is crucial in helping food and beverage outlets identify areas to make impactful change while ensuring that waste is taken care of in an environmentally friendly way.

## Rembrandt Hotel & Suites Bangkok

### Simple Measures



Image source: Rembrandt Hotel & Suites Bangkok, 2019

[The Rembrandt Hotel & Suites](#) located in Bangkok, Thailand is still fairly new to the food waste game. The hotel began implementing food waste reduction practices in the last quarter of 2018 and began by measuring their waste. Now, using the [Winnow System](#) and simple techniques to reduce waste, the Rembrandt has already begun to see results.

By conducting an initial food waste audit, Director of Food and Beverage Sundeep Nellore and his team found that most of the waste was coming from breakfast. They didn't realize how much they were producing, and by measuring, they found that the breakfast kitchen was overproducing goods for the number of covers. In applying food waste reduction practices, kitchen and service staff are required to segregate waste and record what is going into the waste bin, with the cost of the item already pre-entered. Finding that there was also a considerable plate waste, Rembrandt now does more live cooking stations, which gives greater opportunity for guest interaction, balancing it with fewer items on display.



Images source: Rembrandt Hotel & Suites Bangkok, 2019

Rembrandt has also reduced its à la carte portion sizes, after studying plate waste. What remains from the buffet and from banquets is packaged following HACCP hygiene guidelines and is redistributed to nearby Wat Khlong Toei School.

With the programme in its early implementation phase, Sundeep notes that he has not yet seen a return, but he has noticed that there is better teamwork and stronger environmental awareness among his staff. Other sustainability efforts he has implemented includes switching to paper straws. Sundeep explains to his staff that it's not about costs, it's about doing what's right, as paper straws cost more than plastic straws. He adds that it is important to "be persistent and consistent about change," and influences their opinion through imagery.

Sundeep notes his responsibility to communicate to guests that there is no point in throwing away food. He has noticed that guests are starting to understand and demand sustainability and recommends to properties that want to begin their food waste journey to look into their own food and beverage operations to get started. There is no time to waste!

### Uniworld



Image source: Uniworld, 2019

Cruise companies have a different set of challenges than hotels when it comes to food waste. Lack of space on board a ship, crossing international boundaries, and constantly being on the move are all challenges that [Uniworld](#), a boutique luxury river cruise brand with a fleet of 19 ships, has worked hard to overcome. With itineraries that sail in Asia, Europe, Russia and Egypt, Uniworld implements many sustainable initiatives that can also be seen in hotel kitchens.

In the kitchen, Uniworld continually trains staff to segregate waste, placing waste scales in the galley, and keeping meticulous records regarding waste to prevent overproduction. Executive Chefs are tasked with focusing on the details, including ensuring that recipes are followed, portions are controlled and preparation waste is minimised.



Image source: Uniworld, 2019



Image source: Uniworld, 2019

### Supply, Inventory, Forecasting

When dining onboard, Uniworld guests are treated to world-class cuisine prepared with fresh ingredients, sourced locally from the destinations they visit. This is made possible by shopping at local markets for fresh produce when the ships dock at a port, closely managing assigned deliveries, and coordinating with vendors and food suppliers. Uniworld's emphasis on fresh allows the cruise line to guarantee quality service in terms of food freshness, especially when it comes to produce. Farm-to-table isn't just a trendy culinary buzzword. It's a governing philosophy and commitment to serving guests the very best local dishes created by chefs onboard the ship.



Image source: Uniworld, 2019

Managing supply is especially important, with limited space in the galley, working closely with vendors and food suppliers to properly assign and schedule deliveries ensures food freshness is maximised. Uniworld is also currently working with vendors to try to source prepared (e.g. peeled) fruits and vegetables, which limits the amounts of waste being transported between ports of call.

### Food Preparation and Service

Each ship has 130-150 passengers who are offered all three meals on board. Breakfast and lunch service are buffet style, with food production amounts prepared based on historical data and bookings or forecasts. Buffets are further managed by closely monitoring for refills, or sautéing dishes on short order. Dinner is a three-course menu where guests can choose their starters, mains, and desserts from several options. The unique situation of cruising helps to calculate guest numbers; past experience with food service and well-measured recipes prove to be a reliable method to minimise waste.



Image source: Uniworld, 2019

### Plate Waste

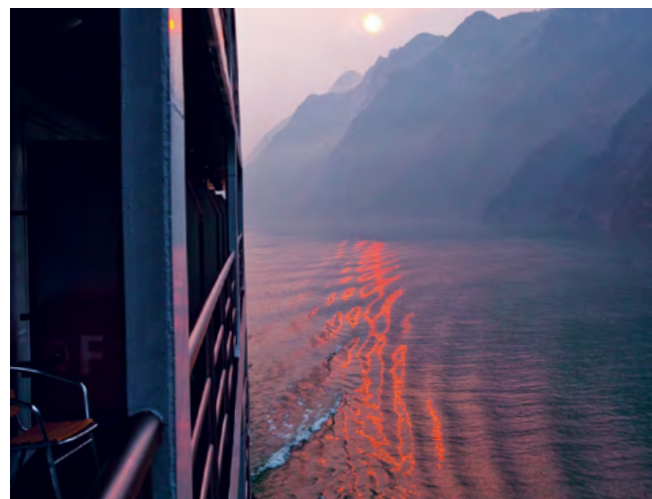
Leftovers are recycled in the crew menus on a daily basis. Any food that has been served to guests but not eaten is put in the pulper and pureed in a *centrifuge system* ([similar to The Green Machine](#)), where liquid content is extracted. What remains is then disposed of in explicit assigned food waste containers. Food waste – up to 2-3 cubic metres per 10-12 days at sea on Uniworld's largest ships – is kept cool and discharged on a weekly basis in coordination with local authorities and appropriate waste hauling companies.



Image source: Uniworld, 2019

### Conclusion

[Uniworld understands its impact](#) on the environment and acts accordingly to preserve and improve it. It works to optimise resources, buying locally and reducing and recycling waste, including food waste. Over a decade ago, Uniworld introduced a clean water programme to preserve our rivers and waterways, which many in the industry have since followed. As a joint initiative between The Travel Corporation and Uniworld, the company has partnered with the TreadRight Foundation to help ensure that the environment and communities visited remain vibrant and preserved for generations to come.



*Image source: Uniworld, 2019*

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### Vancouver Airport Authority

#### Taking waste issues under her wing

For Shaye Folk-Blagbrough, Senior Environmental Specialist at the Vancouver Airport Authority (YVR), “there were times when the waste issue almost felt insurmountable.” Waste management in any airport has its challenges as many visitors pass through only once and may not know the tricks of tossing. At YVR, challenges are also opportunities for change.



## Changing Regulations and the Power of Vision

Thanks to Vancouver’s ambitious [environmental plans](#), environmental stewardship has become a part of residents’ modus operandi.

At [Vancouver International Airport](#) (YVR), food waste reduction took off when the City of Vancouver and Metro Vancouver Regional District [imposed an organics ban](#) on food scraps from disposal as garbage. YVR had to act quickly.

In 2014, the same time as the region was informing the public of the new regulations, YVR took a lead in sustainability through the development of a new strategic plan. With corporate leadership driving change, new environmental targets were set to reduce the airport’s environmental footprint of waste going to landfill to 50% within five years. The airport achieved this goal three years ahead of schedule and has maintained this to date.

## Engagement

The adoption of a corporate goal for waste diversion and a regulatory change meant that it was imperative to implement organics diversion (composting), particularly with YVR’s restaurants and quick-service food outlets.

For Folk-Blagbrough, staff relations is key to waste management. She has conducted hands on waste audits, reviewing businesses’ waste streams and having conversations with staff. She began conducting “waste tours,” regular walk-throughs of the over 50 restaurants in the terminal. She walks into every restaurant and kitchen and looks through their bins while engaging staff in a positive way. She is the face of waste at YVR.



Image source: Vancouver Airport Authority, 2017

To reinforce the culture of waste reduction, the Vancouver Airport Authority holds annual “Waste Wars.” Waste Wars is a friendly competition amongst food service establishments at the airport to see how well they are sorting waste. Teams are evaluated over the course of seven weeks on a sliding scale of zero to four, four being perfect sortation of waste into YVR’s four primary waste streams – compost, paper, containers and landfill. Trophies, made from recycled chopsticks used in food courts at YVR, and created by a [local company that recycles chopsticks](#), are given to first place winners. All food and beverage competitors are given report cards throughout the competition that provide information about how they can improve their score. This competition has been so successful that 2019 will be the competition’s fifth running year.

### What About the Food Waste?

YVR installed a [food waste composter](#) at the end of 2016 as a pilot project to manage the food waste from one of YVR's busiest food courts. This food court generates approximately 17 tonnes of food waste per month. By using microbes and heat, the machine digests food and food-soiled paper waste turning it into a sawdust-like material. The system reduces the food waste volume by about 70%. Opportunities to close-the-loop on the material generated through the composter have been explored for landscaping applications, but the composted material has salt and pH values that are not conducive for landscaping applications at YVR. The system, however, reduces the amount of organic waste generated and thus reduces the number of waste trucks required to pick up the material. The airport has plans to install another food waste composter in the near future.

Food waste is not the only area where YVR is making strides in sustainability. They have banned Styrofoam as of December 2018 and, after launching a "skip the straw" programme in 2018, they are aiming to be plastic straw-free by July 2019. To stay connected, the team administers surveys to see how they can better communicate with visitors on the issue of waste and are also exploring ideas on how to address the amount of plastic used at the airport. Innovators, the green team at YVR is willing to tackle the challenges and bring others with them on the journey.





# CHAPTER 4

## BUFFET FOR YOUTH



**“** *I want to grow food that leaves space for wildlife and leaves something for future generations.* **”**

—

***Guy Singh Watson***  
***Farmer & founder of Riverford***

# for Youth BUFFET

Building an Understanding For Food Excess in Tourism

## The BUFFET for Youth Challenge

### The Challenge

The BUFFET for Youth Challenge enticed the next generation of tourism professionals to think critically about the environmental and social impact of food waste, and find creative ways to take action.

The challenge was divided into three phases:



**1. Appetiser Course:** Teams were asked to first participate in an informational webinar, following which they were asked to choose a specific issue to address regarding food waste on campus for their project. They were then required to share a video or social media post explaining why they chose to address that particular food waste challenge within the food service stream.



**2. Entrée Course:** Teams developed two possible solutions for their chosen food waste challenge. The solutions were submitted to judges for feedback.



**3. Dessert Course:** Based on feedback from judges, teams chose one possible solution to reducing food waste on campus and implemented it over the course of four months. During this time, teams provided the PATA team with monthly updates. At the end of the four months, the teams presented their projects to a panel of judges who evaluated the projects based on the impact of the project, innovation, messaging, graphics, ability to be replicated, and potential longevity of the project, i.e. can the changes be sustained well into the future.

**Fortune Cookie:** For their efforts, the winning team has been invited to attend the [PATA Annual Summit](#) 2019 to present their case study during the [PATA Youth Symposium](#). In addition, the team’s case study is included in this report and will be showcased on the PATA sustainability website, [sustain.pata.org](http://sustain.pata.org). All winning team members receive complimentary PATA YTP Membership for one year.

### **Main Achievements**

This activity saw some achievements, the being that two of the three teams that completed the “Dessert Course” saw a 45-48% food waste reduction on their campuses over the course of four months.

The BUFFET for Youth Challenge encouraged global youth – regardless of whether they completed the challenge – to think more about how, in the context of food waste, their actions and the actions of those around them impact the community. Involvement with the BUFFET for Youth Challenge generated awareness, and in some cases, the students became food waste reduction ambassadors on campus and found ways to ensure the longevity of their efforts. The students learned to decipher the local food waste management system and assess local stakeholders’ attitudes towards the issue.

### **Lessons Learned**

Based on the issues faced in implementing this challenge, there are a few possible ways to run a similar challenge in the future.

Teams were asked to submit monthly reports on their measurements, which aimed to keep them on track. It may have been useful for teams to have been offered some coaching sessions; more guidance and mentoring for the students could have reduced the Challenge dropout rate.

Executing this project was no small task, but it positively impacted many youth in a significant way. Even though the BUFFET for Youth Challenge has now concluded, the work the students have accomplished will have a lasting effect on their lives.

### **Supporters**

The BUFFET for Youth Challenge would not have been possible without the cooperation of the PATA Young Tourism Professionals network and the colleges and universities that allowed their students to participate in such an activity.

We would also like to give a special thank you to the judges for their time and dedication to this Challenge: Veronika Forstmeier, Senior Hospitality Programme Officer, World Wide Fund for Nature in Malaysia (WWF-Malaysia); Chi Lo, Sustainability & Social Responsibility, PATA; Maxime Pourrat, Managing Director APAC, Winnow; Abigail Smith, Scholars of Sustenance Foundation (SOS Thailand), Chief Operations Officer of Thailand; JC Wong, Young Tourism Professional Ambassador, PATA.

Lastly, we would also like to acknowledge [The Travel Corporation](#) (TTC) for their support of this initiative.

### Food Savors – BUFFET for Youth Challenge Winner

Food Savors from Hyderabad, India, representing the National Institute of Tourism and Hospitality Management (NITHM), won the 2018-2019 BUFFET for Youth Challenge, for their impact in reducing food waste on campus. Food Savors was recognised for their initiative in addressing plate waste by measuring the amount of plate scrapings at a dining hall on campus, and highlighting food waste issues through an awareness raising campaign featuring creative posters, quizzes, and videos. In just one month, Food Savors' efforts saw a nearly 48% decrease in plate waste. The team appointed "Food Champions" on campus to ensure that the impact of their efforts extends beyond this Challenge.



*L/R: J Akhil, K Pavithra, M Supriya, Brahmanand Reddy, B Mounika, and Subhqtahin*

### Objectives

After participating in the Appetiser Course, the team decided to tackle plate waste on campus because plate scraping is a common phenomenon in India. The team noted that social and religious gatherings happen frequently and are often served buffet style where large amounts of food get wasted. They also found that in India, 40% (equivalent to ₹50 crore or US\$7.3 billion) of food is lost or wasted, exacerbated due to poor transportation management and storage infrastructure. This wastage is a huge concern as [15% of the nation's population is undernourished](#).

### The Project

At NITHM, food in the dining halls are served on metal trays, buffet style. On average, 200 covers are served per meal per day, with most students eating all three meals at one of two campus dining halls. Plate waste is then scraped into a plastic bin for disposal, for animal feed, except for Sundays when meat is served – it will go to landfill. They found that every day, the two canteens cook 111 kg of rice and 63 kg of daal between them, with the total food wastage totaling between 50-60 kg daily, or 420 kg weekly, or nearly 22 tonnes annually.

The team began by measuring the plate waste of the dinner meal at one of the canteens for one week in October 2018. The team chose dinner service due to class schedules, because dinner is only served at dining hall, and so that they would have a more captive audience for the awareness campaign.

Date	Menu	Weight of plate scraping (kg)	# of plates	kg of wasted food per plate
Monday 10/22	Roti, daal, ladyfingers, chutney, soyabean, rice, curd	20	150	0.133
Tuesday 10/23	Roti, daal, egg burji, rasam, rice, curd	22.1	148	0.149
Wednesday 10/24	Aloo matar, roti, daal, curd, rice	24	156	0.154
Thursday 10/25	Rajma, roti, aloo, rice, daal, curd	22	156	0.141
Friday 10/26	Vegetable palao, egg curry, roti, rice, daal, raita	22.5	200	0.113
Saturday 10/27	Lemon rice, roti, papad, daal, brinjal, aloo, curd	18	150	0.080
Sunday 10/28	Chicken biryani, roti, raita, desert, veg biryani, paneer	23	200	0.115

*Plate scrapings from dinner 22-28 October 2018 in the NITHM hostel canteen*

After reviewing the results, the team discussed a plan to reduce plate scrapings at this particular canteen with School Principal V. Narendra, School Director Dr. Chinnam Reddy and Hostel & Canteen In-Charge G.Mahender.

Because the dining halls are operated and governed by a third party vendor, students have limited choice in food and food service, and changes are difficult to make. The team feared that measuring preparation waste and going into the kitchen would have been futile. Food Saviors therefore decided to establish a goal of reducing plate waste by 50%, to be achieved by gaining an understanding of the psychology towards food and food wastage, finding rational and feasible ways to reduce food wastage and spreading awareness about the impacts of plate scrapings.

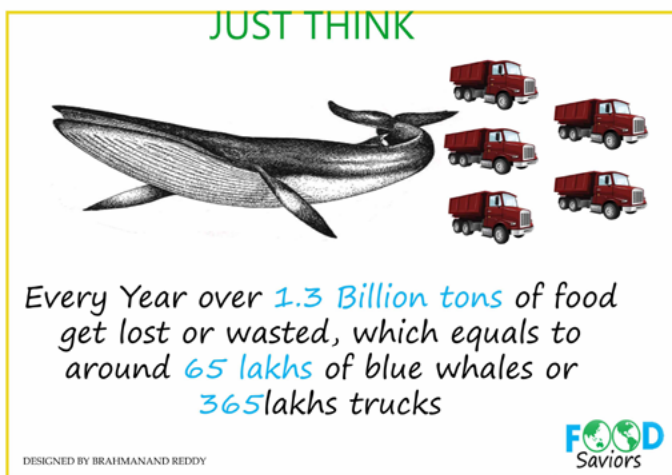


Image source: Reddy, B., 2018

Over the first few weeks of the campaign, the team installed cameras near the table scraps bin to monitor plate scraping. They felt that the “big brother” effect of a camera would help to make people feel more conscious of what they were throwing out, and would hold students accountable. Food Saviors also organised awareness campaigns in the canteen where team members shared the negative effects of plate scraping with other students. The team found that students quickly

became interested in the issue of food waste, so candidates from each class were appointed “Food Champions” and were given the responsibility of continuing the campaign after the BUFFET for Youth Challenge concluded.

As part of the awareness raising efforts, the team designed posters, pop quizzes, [awareness videos](#), and actively solicited feedback from their peers. During Sunday dinner (the most popular meal), the team showed videos about food waste and conducted quizzes with questions related to the videos. Second hand books and smiley badges were given as prizes to students who answered the questions correctly.



Image source: Reddy, B., 2018

After only one month of the awareness campaign, Food Saviors was able to reduce the dinner plate scrapings from 521.6 kg in October 2018 to 273.6 kg in November 2018; a reduction of 48%. In December, the team measured only 142 kg of plate scrapings; however this drastic reduction can be attributed to exams, and students returning home in between semesters. In January 2019, the team measured the plate scrapings again, and found there to be 215 kg of plate waste, a **59% decrease in plate scrapings from the baseline.**

The team concluded that through their awareness raising tactics, they empowered individuals to reduce plate scrapings. With the mantra, “Just a little for you, might be someone’s entire meal... so think twice before wasting food,” Food Saviors team members found that they were able to spread knowledge quickly throughout their campus.

Image source: Reddy, B., 2018

# CHAPTER 5

## BANGKOK HOTELS PROJECT



*“Imagine walking out of a grocery store with four bags of groceries, dropping one in the parking lot, and just not bothering to pick it up. That’s essentially what we’re doing.”*

—

***Dana Gunders***  
***Food & agriculture scientist, author***



In 2018, Bangkok generated 4.85 million tonnes of solid waste – 17% of Thailand’s total sold waste. Only 19% of that solid waste was being segregated and recycled, and the remainder was going to landfill (PCD, 2019). According to PCD data cited by [Scholars of Sustenance](#) Thailand (SOS), 64% of Thailand’s landfills are filled with food waste, a shocking number when 8.5% of the Thai population is struggling with hunger.

One of the core activities of the [BUFFET Initiative](#) was the “Bangkok Hotels Project,” a project implemented with SOS, a food rescue foundation that collects surplus food from commercial outlets and delivers it direct and free of charge to communities in need. This activity linked PATA’s Bangkok hotel network with SOS to help them reduce the city’s food waste to landfill while providing nutrition to those in need.

### How SOS Helps

SOS collects two types of donations: The first is excess edible food that is weighed and labeled, inspected for food safety, then delivered to recipients in need. SOS has a full time HACCP-trained food hygienist on staff, with all staff EcoLab ServeSafe certified to help maintain the highest donation quality. All of SOS’ trucks are refrigerated, with food going through a three-point safety check before reaching its final beneficiary. Through this process, SOS has saved over 645 tonnes of food waste from landfill, equivalent to over 1.2 million meals served.



Images source: [Scholars of Sustenance Thailand](#), 2018

SOS also collects food waste for compost, which is sent to local farms for use as animal feed or composting. In the less than three years that SOS has been in operations, the organisation has composted over 265 tonnes thereby reducing Bangkok’s CO<sub>2</sub> emissions by over 500 tonnes.



Hotels that signed on to the Bangkok Hotels Project received in-depth and hands-on training for staff on how to measure and manage food waste and excess food; training on implementing food waste reduction practices; monthly data reports on all donations; and guidance on preparing food donations. Through its onboarding process, SOS also provides contracts that cover liability and anonymity for food donors.

If every hotel in the Asia Pacific donated its excess food we could provide  
**208 million** more meals to people in need.

Currently 20 hotels in Bangkok are working with SOS. Five joined in 2018 after PATA extended the invite to participate in the project: [Banyan Tree Bangkok](#), [The Athenee Hotel Bangkok](#), [Siam Kempinski](#), [SO Sofitel Bangkok](#), and [The Sukosol Bangkok](#). Three of the five began donations in 2018, resulting in over 7,700 kg of food rescued. The [OzHarvest](#) standard states that 1 kg of food donated yields three meals, which is the equivalent to over 23,000 meals, or 14,630 kg of CO<sub>2</sub>, according to the [Watch My Waste food waste to carbon calculator](#).

Although these hotels only began donating in 2018, they contributed to over 10% of the nearly 73 tonnes of excess food rescued by SOS in 2018, where hotels' contributions make up 32% of total edible donations.



Images source: *Scholars of Sustenance Thailand, 2018*

SOS' 2018 data on monthly collections shows that the 16 hotels that provided edible donations rescued 550 kg of food per month, per hotel, on average. Multiplying by twelve, we find that the annualised weight of food donated per hotel is 6,600 kg. Using the average number of rooms for the 16 hotels (436), we can calculate that the average amount of food donated per room is 15.14 kg per year.

With a total number of 143,430 rooms in Bangkok, and 683,000 in Thailand as of 2016 ([Lunkam, 2017](#)), the potential for food redistribution is considerable. Using the [OzHarvest](#) standard, valuing each meal at ฿25, and using the [Watch My Waste](#) food waste to carbon calculator, the statistics projecting food excess and rescue potential below are staggering.

	Bangkok	Thailand	Asia Pacific
Total # of rooms	143,430	683,000	4,586,835
Total kg of food rescued/year	2,171,530	10,340,620	69,444,682
Total # of meals redistributed/year	6,514,591	31,021,860	208,334,046
<a href="#">Equivalent CO<sub>2</sub>-e (kg) (Watch My Waste)</a>	4,125,907	19,647,178	131,944,896
Total value (฿)/year	162,864,765	775,546,500	5,208,351,143
Total value (US\$)/year	5,118,840	24,375,426	163,698,476

With 4,586,835 rooms in the Asia Pacific as of early 2018 ([STR 2018](#) as cited in eGlobal Travel Media) and over 500,000 more in the pipeline, we as an industry have the opportunity to make an enormous social and environmental impact. This amount of food waste is worth the same as powering 32,276 Australian homes for a year. With 842 million people not getting enough food, and Asia having a prevalence of undernutrition, the over 200 million meals that could be redistributed thanks to food rescued from hotels in the Asia Pacific would make an incredible impact ([UN, 2017](#)).



Images source: *Scholars of Sustenance Thailand, 2018*


### Lessons learned

Though this project showed that it can be a long process to bring hotels on board. Simply offering a free service is not enough, and it is not enough to approach sustainability managers either. This means that even though a property may be progressive enough to have a dedicated sustainability specialist on staff, the business case must still be made to the top tiers of hotel management, owners, decision makers, and strategists, and they must be the ones to instigate change, with help and expertise from a third party.

Once hotels realise the extent of their food waste, the impact of their sustainability efforts can and will be massive. Imagine, if all the hotels in the world could donate their excess food: many people would not have to go hungry, landfills could be smaller, the environment could be cleaner, less land would be cleared for agriculture and animals could live in their natural habitat. It is our hope that we will not have to imagine for much longer.

# CHAPTER 6

## CONCLUSION & RECOMMENDATIONS



*“ If you’re part of the problem, you’re out of business. If you’re not doing the right thing by the environment, you’re out of business. People will not support you. If you don’t get on the bandwagon, you’re gonna miss the boat. It’s not a trend and it’s how we need to operate effectively now. It’s a revolution. You have to be ahead of the curve. If you’re not you’ll be out of business, and I’ll be out of a job. ”*

—  
**Lucas Glanville**  
**Chef, Director of Culinary Operations,**  
**Hyatt South East Asia**



This report has presented examples from the tourism sector and its stakeholders: hotels, cruise lines, governments, tour companies, students, aviation, NGOs, vendors, and multilateral agencies that are working tirelessly to improve their sustainability practices, and in that, reduce their food waste to landfill. Though their methodologies and practices are unique to their situations, the **passion for the cause** is the driving force.



Industry stakeholders experience common challenges, including a need to improve engagement with local government and corporate leadership, lack of municipal infrastructure to carry out food waste diversion practices, resistance to change, staff turnover, and a lack of awareness. Each of the organisations interviewed for a case study has **sought innovative ways to overcome its hurdles**.

Most organisations have implemented some kind of technology such as Winnow or ORCA, and in doing so, they have easily been able to measure and track the path and types of food waste in the kitchen. Businesses are bringing together stakeholders in awareness raising efforts, actively communicating in open dialogue with guests, holding suppliers accountable, and sharing tips and tricks to divert food waste from landfill. What has been especially successful is **the implementation of training programmes to complement the technology**, because staff awareness and buy-in is imperative to any food waste reduction programme's success. Food waste prevention strategies have been creative and varied, as have diversion and redistribution practices; the industry will continue to see more of this in the future.



*Image source: Karidis, A., 2018*

Some feel that it is the government's role to help **find alternative solutions** to inadequate infrastructure, enforce change and stop delaying the inevitable. In California, for example, waste digestion plants have been overbuilt in anticipation of utilising waste to create biofuel, reducing the need to pull virgin electricity from the grid ([California Energy Commission](#), 2019). Regulation such as the 2015 organics ban in Metro Vancouver or innovations such as South Korea's use of RFID-based smart food collection system can also help ensure environmental practices are part of everyday habits. **Those who do not comply can be fined, or worse, shamed**, with public relations fallouts potentially deadly for any business.

*"I believe in the future, people will be a lot more aware of this situation. More and more of our customers appreciate what we do. As the customer understands and appreciates and demands, the supplier will have to comply too. If you don't, you are out of the game and you will become a dinosaur because 1) you are losing out on operating costs, 2) you are losing out on the potential customer, and 3) the whole world is moving towards sustainability, and if you don't do it, you will lose out big time."*

**- Anthony Wong, Frangipani Langkawi Resort & Spa**

[There is a strong sentiment](#) that until the government can step up, businesses – especially the larger players – must take it upon themselves to lead sustainability efforts. **“Doing the right thing” is a common refrain.** Private sector businesses that take the initiative to “do the right thing” will be duly rewarded.

For some, saving the world is a pull, for others, saving costs, which can come in the form of reduced labour-related costs, food costs, waste disposal costs, and more, is the primary incentive for implementing food waste practices. Regardless of motivation, one thing is clear: **it's not a trend. There is a business case to operate more sustainably.**



The Millennial mindset has a level of loyalty that has not been seen before; the Millennial consumer is no-nonsense. They are demanding ethical products and greater engagement – [Accenture](#) predicts that the children of baby boomers will be the wealthiest generation yet. So while there is still awareness to be gained globally, we cannot underestimate the consumer. They are engaged and fascinated, and they are paying attention. They have a taste for authenticity and a disdain for insincerity. Millennials want to **make the right choice.**

## CHAPTER 6: CONCLUSION & RECOMMENDATIONS

For those wanting to begin their food waste reduction journey, Leisa Tyler, travel and food writer, photographer, food event organiser and Founder of [Weeds & More](#) (which supplies edible flowers, garnishes, herbs and vegetables to restaurants & hotels in Singapore and Malaysia) advises to “**be flexible.**” She adds, “**You just have to start** somewhere [because] we don’t have time, time is running out. If we don’t attack it, it will be too late.”

Other bites of **advice** that were offered by interviewees:

“Set up your kitchen so you promote proper recycling. Utilise a top down approach with staff. The most successful restaurants are where the owners are on board.” – Shaye Folk-Blagbrough, YVR

“Sourcing matters. Source locally to reduce inventory and stock. You can purchase more regularly rather than having to buy large quantities at once to ensure you serve fresher produce to clients and to help reduce waste.” – Dmitri Cooray, Jetwing Hotels

“Tackling food waste (as well as any other environmental issues) can be overwhelming, but there are tools available that businesses can adopt to make change happen. The key to success is to integrate it in your business planning, involve your staff, measure and monitor it.” – Andreas Hoffmann & Thuy Phuong Nguyen, GIZ

“Use menu messaging, which is a term coined by our Association also back around 2001. It means using the restaurant-café-bar menu to tell the customer important messages not directly related to the food/drink being sold. Often it is used to discuss a building’s history, chef’s philosophy, or owner’s background. It can also be used to tell people about the business’s philosophy when it comes to refuse-reduce-reuse-recycle and also to explain to consumers why it is important for them to be involved.” – Erik Wolf, World Food Travel Association

“In order for us to have a clear path to solve the problem on food waste, we need to have data and in order for us to have data, we really need to measure. We cannot manage those that we cannot accurately measure.”

- Melody Melo-Rijk, The Sustainable Diner Project Manager, WWF Philippines

### And finally...

People are engaged, and we can’t deny them the opportunity to act. Our planet has limited resources, but our demands as humans are infinite. Tackling food waste is only one of the many ways we as an industry and as human beings can close the gap by reducing, reusing, recycling, redistributing, and rethinking our relationship with food.



# AFTERWORD

**No** matter where you go, food is an inherent part of the travel experience, but nowhere is the buffet more prevalent than in Asia. While tourists often eat to their hearts' content, we don't often see where our food comes from, how it is prepared, or where it goes when we discard it.

The hospitality industry in many parts of the world, and especially in the Asia Pacific, is expected to see significant growth in the next five years. Between 2018-2019, growth is expected to be a 5.8% increase, from nearly 690 million international visitor arrivals (IVAs) in 2018 to an expected 728 million IVAs in 2019. The total IVAs into 40 Asia Pacific destinations covered is predicted to reach close to 900 million by the end of 2023 (PATA, 2019). With greater growth, greater waste can be implied, with a greater burden on our ecosystem.

Recognising the impact our sector can make is immense, PATA has, over the past two years, been dedicated to our BUFFET (Building an Understanding For Food Excess in Tourism) Initiative, which brought together a coalition of industry partners and PATA members to create and implement a campaign that challenges our industry to reduce food waste to landfill.

Under this initiative, we developed online tools for hoteliers and other hospitality and tourism professionals to drive positive change and ultimately reduce their food waste to landfill. We matched hotels with Scholars of Sustenance Thailand, a food rescue and redistribution organisation, to help them begin their food waste reduction journey and become food excess donors via our "Bangkok Hotels Project". Additionally, we challenged those within our Young Tourism Professionals network to reduce their food waste on campus, with great results – all of which you will be able to read about here. There are many ways to reduce your food waste to landfill, and this report will highlight some of the best practices in our region. Readers can also expect to see a situation analysis of food waste globally, drilling down to our region, and to our industry.

We hope this resource has inspired you to make the food-related changes in your organisation that will only positively impact your triple bottom line.

This project is a research initiative made possible through the leadership of PATA with support from The Travel Corporation. We are extremely grateful to our partners and members and trust that our work will make an important contribution towards the United Nations' Sustainable Development Goals (SDGs).



## Mario Hardy

*Chief Executive Officer  
Pacific Asia Travel Association*

*“ We don’t need to produce more;  
we need to act different. ”*

—

***Massimo Bottura***  
***Restaurateur, three-Michelin-star chef***





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# ABOUT PATA

Founded in 1951, PATA is a not-for-profit membership association that acts as a catalyst for the responsible development of travel and tourism to, from and within the Asia Pacific region. The Association provides aligned advocacy, insightful research and innovative events to its more than 800 member organisations, including 95 government, state and city tourism bodies, 20 international airlines and airports, 102 hospitality organisations and 70 educational institutions, as well as over a hundred young tourism professional (YTP) members across the world. The PATA network also embraces the grassroots activism the PATA Chapters and Student Chapters, who organise numerous travel industry training programmes and business development events across the world. Thousands of travel professionals belong to the 35 local PATA Chapters worldwide, while hundreds of students are members of the 22 PATA Student Chapters globally. The PATAmPOWER platform delivers unrivalled data, forecasts and insights from the PATA Strategic Intelligence Centre to members' desktops and mobile devices anywhere in the world. PATA's Head Office has been in Bangkok since 1998. The Association also has official offices or representation in Beijing and London. Visit [www.PATA.org](http://www.PATA.org).



# ABOUT THE AUTHOR

**Chi Lo** has been managing the Sustainability & Social Responsibility programme at the Pacific Asia Travel Association (PATA) since 2013. She is responsible for mapping and executing PATA's sustainability strategy, nurturing global sustainability relationships, and establishing PATA's position as a sustainability-minded global organisation.

Chi is a strategic visionary with experience leading sustainability programmes spanning several continents. Prior to joining PATA, Chi has worked for organisations including the Uganda Community Tourism Association (UCOTA) under the USAID-STAR project, the Women's Media Centre of Cambodia, the Center for Responsible Travel, and the Africa Travel Association. She is recognised as an expert in sustainable tourism and represents PATA in the sustainable tourism community. She is currently a member of the Global Sustainable Tourism Council Executive Committee and Board.

Chi was born in Hong Kong, grew up in Vancouver, Canada, and is currently based in Seattle, USA with her husband, two dogs, and two young children from whom she has borrowed the Earth.



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