One Planet Sustainable Tourism Programme

Accelerating sustainable consumption and production to address the challenges of climate change, biodiversity loss and pollution
Food loss and waste exacerbate some of the most urgent challenges of our time, including climate change and biodiversity loss.

The global food system is estimated to generate 34% of global GHG emissions.

1/3 of food produced globally for human consumption is wasted or lost along the value chain, resulting in an annual loss of nearly $1 trillion.

50% of habitable land and 70% of available freshwater are used by food systems.

Around 14% of food is lost after being harvested and before reaching the market; a further 17% is wasted in retail and by consumers.

Looking to the future... by 2030, food loss and waste are expected to increase by 60%, resulting in a loss of over $1.5 trillion.
Tackling food waste in the tourism sector can deliver many environmental, social, and economic benefits

The hospitality sector contributes heavily to food waste and loss generation:

- Food service (including in tourism) contributes 26% of all food wasted at consumption stage – the equivalent of 32 kg per person per year.
- In the US, about 63 million tons of food are wasted each year, with 40% of waste produced by consumer-facing businesses, including restaurants and hotels.
- In the UK, an estimated 18% of annual food waste originates from the hospitality and food service industries.

Addressing food waste in tourism can:
- Improve business efficiency
- Lower operational costs
- Reduce GHG emissions
- Increase food security

A Champions 12.3. study of 42 hotels in 15 countries found that $7 were saved for every $1 invested in lowering kitchen food waste.
SDG Target 12.3: Reducing Food Waste

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
Call to action:  

"There is a real need for the tourism sector to act now to build a resilient and sustainable future for itself and the planet."

The Roadmap encourages and provides recommendations for tourism stakeholders to:

- **Set Targets**
  Set the ambition by identifying a food waste reduction target;

- **Measure Progress**
  Measure in a consistent way to be able to track progress against a baseline;

- **Take Action**
  Take action to reduce food waste in tourism operations, work in partnership with suppliers and help guests reduce their food waste; and

- **Report**
  Disclose progress, showcase successes, share learnings and challenges with other stakeholders to trigger changes at scale.
The objective of the Global Roadmap is to accelerate the uptake of food waste reduction strategies by tourism stakeholders.

Accommodation providers:
- By 2030, halve food waste per guest night; and
- By 2030, divert 100% of residual food waste from landfill (or incineration) or 50% where the infrastructure does not exist.

Cruise lines:
- By 2030, halve food waste per guest day; and
- By 2030, increase capacity on-board (or in port) to process 100% of residual food waste, avoiding any need to discharge to sea by 2030.
THE HIERARCHY OF FOOD WASTE MANAGEMENT STRATEGIES TOWARDS ZERO WASTE TO LANDFILL

- Avoid
- Redistribute
- Reuse
- Recycling
- Energy Recovery
- Disposal

Higher Environmental Impact

Lower Environmental Impact
MEASUREMENT & REPORTING

FOOD WASTE VALORIZATION

CONSUMER ENGAGEMENT

ECOLOGICAL FOOTPRINT

FORECAST, PORTION CONTROL, SERVICE & MENUS

CROSS-VALUE CHAIN COLLABORATION

PRIORITY ISSUES
### COLLECTIVE RESULTS

#### FOOD WASTE REDUCTION INDICATOR

<table>
<thead>
<tr>
<th>Year</th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>Target 50%</th>
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<tbody>
<tr>
<td>2019</td>
<td>10%</td>
<td>13%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>2020</td>
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<td>2025</td>
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</tbody>
</table>

#### FOOD SERVICE SECTOR

In 2022 food waste was down 7% to an average of 95 grams per meal.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average grams per meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>135</td>
</tr>
<tr>
<td>2020</td>
<td>122</td>
</tr>
<tr>
<td>2021</td>
<td>102</td>
</tr>
<tr>
<td>2022</td>
<td>95</td>
</tr>
</tbody>
</table>

#### REPORTING SITES

- 1,081 sites reported reliable data in 2022 (22%)
- 1,411 sites set a baseline since 2019 (22%)
- 87% of sites reported reliable data in 2022

#### BREAKDOWN

- Preparation: 24%
- Service: 32%
- Plate: 10%

#### KEY TAKEAWAYS

- 23% food waste reduction since 2019
- The pandemic simplified the service organization which in turn allowed better control of overproduction
- In only 3 years, sites with reliable measurements are already halfway to UN SDG 12.3, which gives hope for massive progress for the entire sector
- Plate waste remains the area with the highest potential for improvement
SOURCE PRODUCTS OUT OF SPECS

Atypique propose une large gamme de fruits et légumes.
- Une cinquantaine de références de saisons chaque semaine
- Plus de 200 références à l'année
- Une offre stable 100% française

S'INSCRIRE
SOURCE EXCESS PRODUCTION

SURPLUS VEG RESCUE

Working closely with farmers and growers
Food Waste Metrics

Prevention target - accommodation providers and cruise lines:
- Total food waste per annum (metric tonnes);
- Total number of guest days or nights per annum; and
- Food waste (kg) per guest day or night.

Diversion target - accommodation providers and cruise lines:
- Total food waste per annum (metric tonnes);
- Total food waste to landfill (or incineration) or discharge to sea per annum (tonnes); and
- % food waste diverted (from landfill – or incineration- or discharge to sea).

Additional metrics
- Food waste per customer/ cover
- Food waste per revenue
- Food waste per total food handled
- Food waste per square meter
CLIENT NAME: SENAC BA
CARBON NEUTRAL CERTIFICATION
Expiration – December 2023

Participant: Restaurante-Escola SENAC Casa do Comércio
Carbon footprint type: Corporate
Reporting period: January – December 2021
Scope: 1, 2 and 3
Offset evidence data: Project Number - 1642
PROMOTING RESPONSIBLE FOOD SERVICE

➢ Inventory control
➢ Proper storage
➢ Forecast demand
➢ Measuring food waste
➢ Smaller containers
PROMOTING RESPONSIBLE FOOD SERVICE

➢ Full use of food
➢ Reuse of food
➢ Local sourcing
➢ Education and awareness
ANIMAL FEED
CASE STUDY FROM COSTA CRUISES: REDISTRIBUTING FOOD SURPLUS TO LOCAL COMMUNITIES

- Rethinking food processes to allow onboarding of local produce in different ports
- Food waste reduction by 27% (2022) and measurement with artificial intelligence
- Italian Law No. 166/2016 on reducing food waste encourages food donations (of prepared but not served meals) for social aid
- Over 1.1 million meals donated to people in need in 15 destinations since 2017
Addressing Food Waste in West Asia

• Growing population, water scarcity, dependence on food import, worsening of biodiversity indicators, political instability and conflicts

Saudi Arabia’s baseline (SAGO 2019):
food loss and waste levels of around 33% throughout the food supply chain

- food loss estimated at 14.2%
- food waste estimated at 18.9%

<table>
<thead>
<tr>
<th>Country name</th>
<th>Study area</th>
<th>Household food waste estimate (kg/capita)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>Nationwide</td>
<td>132</td>
<td>Abyam 2018</td>
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<tr>
<td>Iraq</td>
<td>Baghdad</td>
<td>75</td>
<td>Al-Maliky and ElKhayat 2012</td>
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<td>Mosul</td>
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<td>Al-Rawi and Al-Tayer 2013</td>
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<td></td>
<td>Karbala</td>
<td>142</td>
<td>Al-Mas’udi and Al-Haydari 2015</td>
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<td>Al-Kut City</td>
<td>138</td>
<td>Sulaymon, Ibraheem and Graimed 2010</td>
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<td>Lebanon</td>
<td>Nabitya</td>
<td>163</td>
<td>Year and Abidi 2009</td>
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<td>Beirut</td>
<td>105</td>
<td>Chalak et al. 2019</td>
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<td>Saudi Arabia</td>
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<td>105</td>
<td>SAGO 2019</td>
</tr>
</tbody>
</table>

Source: UNEP 2021, pp. 43-44.

Studies in the region show significant per capita amount of household food waste, with 75-132 kg/cap yearly generated

• Generate significant amounts of food waste over short periods.
• During Ramadan research shows that from 25% to 50% of the food prepared is wasted.

Food waste in Arab States

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Food security in Arab States

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Lifestyles in Arab States

Food waste in Arab States

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Lifestyles in Arab States
Recipe of Change

Consumer behaviour change programmes

Raise awareness on food waste and promote behavioral change.

Social media, on ground activations, TV shows, podcasts, articles

Chef Leyla Fathallah – UNEP Advocate on Food Waste
Recipe of Change – Sustainable Ramadan

Ramadan 2023 - Partnership with the Hilton Green Ramadan Initiative

Average post-consumer waste reduced by 60%-65% over the Green Ramadan campaign in three outlets (Dubai, Qatar, and Riyadh).
Food is a key element of the tourism experience.

https://www.youtube.com/watch?v=3mMR4ueZmXA
Prevention

Redistribution

Diversion
Circulation/Valorization
FOOD WASTE – COMPOST – LOCAL PRODUCE
CASE STUDY FROM SONEVA: WASTE TO WEALTH

• Food waste reduced by 50% compared to 2019
• Plant-based meals increased to 50% of offering
• 100% of food waste is recycled by composting (4,200 tonnes since 2009)
• Vegetable production increased from USD 16,000 a year in 2019 to USD 200,000 in 2021
ON-SITE « ACCELERATED » COMPOSTING

30 kg/day
2-week output

+ Electrical assistance
Up to 330 kg/day
2-week output

Several weeks are required to get mature ready compost.
ON-SITE ANAEROBIC DIGESTION & ENERGY RECOVERY

From 30 tons to 3000 tons per year

Fertilizer + electricity production

SEaB Energy
on-site energy generator transforming organic waste

BioBeeBox
A containerized solution that transforms organic waste into energy, compost and water
The Waste Transformers
on-site anaerobic digester for biodegradable waste

https://www.youtube.com/watch?v=JGIAsl9jUg&t=101s
Prevention

Redistribution

Diversion
Circulation/Valorization
### Levers for scaling-up food waste reduction in the tourism sector

<table>
<thead>
<tr>
<th>National and subnational tourism policies</th>
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<tbody>
<tr>
<td>Waste management infrastructure (pre competitive collaboration)</td>
</tr>
<tr>
<td>Staff training and customer engagement</td>
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<tr>
<td>Climate action</td>
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<tr>
<td>Regulations and incentives</td>
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</tbody>
</table>

**Holistic approaches:**
- ✓ Local sourcing
- ✓ Conscious preparation

**Innovation and investments**

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[One Planet logo: travel with care]
Food production and consumption shall occur in a sustainable loop, minimizing waste, and maximizing resource efficiency and the benefits for people.