

The 9th UN Tourism World Forum on Gastronomy Tourism

Masterclass Circular Solutions
for Reducing Food Waste



18-19 November 2024, Manama, Bahrain

About your Host

Ben Lephilbert

Chief Food Waste Hacker



- CEO of **LightBlue** (UN-Awarded), fighting food waste since 2012
- Designer of the **FIT Food Waste Tech**
- Co-designer of **The PLEDGE** on Food Waste
- Has trained more than **3,000 culinary professionals** and run 100+ food waste prevention projects in 30+ countries
- Guest-lecturer in culinary and **business schools**
- Awarded **Global Top 30 Champions of Sustainability** in Hospitality 2021

 [BenjaminLephilbert/](https://www.linkedin.com/company/BenjaminLephilbert/)





UN-Awarded for-profit social enterprise reconciling
sustainability with **business excellence**

12 years

of proven expertise in design and implementation of
technical solutions

100+ projects

on food waste prevention for government agencies,
development agencies, hotels and restaurant groups

31 countries

Thailand, Singapore, UK, Maldives, Denmark, Vietnam,
Indonesia, France, Italy, Mauritius, Korea, China, Taiwan, US....

Technical Sustainability Expertise since 2012

Hotels & Resorts



Restaurants



Higher education / Schools



Development Agencies / Government Agencies



Catering





WHY food waste

2 ZERO HUNGER



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



17 PARTNERSHIPS FOR THE GOALS



What is "Food Waste"?

ALL
THE ORGANIC MATTER,
destined for human
consumption, that ENDS
UP IN THE BIN.



Our Globalized Linear Economic Model



Our economic model is the **root-cause** of many global challenges...
...and **Food Waste** is just one of its **by-product**



What are the 3 Main Food Waste Impacts?



Societal



Environmental



Financial



Food Waste: A Societal Tragedy

1/3 of food is WASTED in the world (FAO) = **1.3 billion tonnes**



The
many faces
of global
malnutrition

40 million
overweight
children

160 million
stunted
children

216
million
underweight
men

244
million
underweight
women

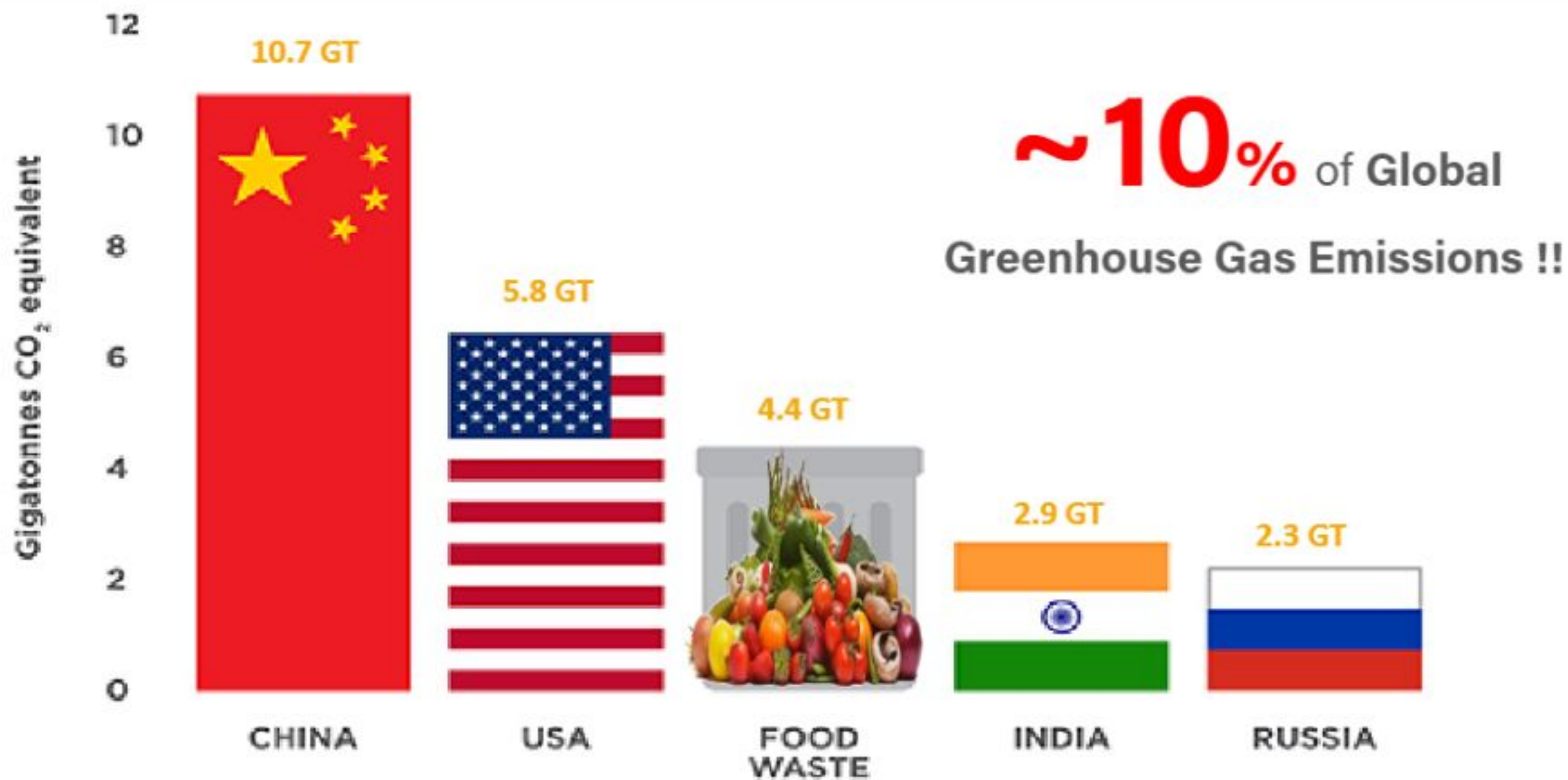
266
million
obese
men

375
million
obese
women

Sources: Lancet NCD Risk Factor Collaboration 2016
& Global Nutrition Report 2016

 **JUST ACTIONS**
WORKGOOD

CO₂ Footprint of Food Wasted



The Environmental Impact of Food Waste



19% of all
fertilizer



18% of
cropland



21% of **landfill**
volume



21% of all
fresh water



Food and Agriculture
Organization of the
United Nations



The Water Footprint of your Favorite Food

How much **water** do you need to produce these food items??



132 Liters

Per 125 ml cup



4,325 Liters

Per kg



109 Liters

Per 125 ml Glass



17,196 Liters

Per kg

UN Food Waste Index 2024



1/3 of the food globally produced is wasted, while **1 in 10 people** worldwide suffer from hunger



8-10% of Global Greenhouse Gas (GHG) emissions is coming from Food Loss and Waste

Most of the world's food waste comes from households



60%



28%



12%





Food Waste = Money Wasted



[Watch Here](#)



18%

→ Food Inflation rate for F&B in 2022

Forbes

<https://www.forbes.com/sites/forbesfinancecouncil/2022/06/03/quantifyin-q-inflation-for-restaurant-owners/?sh=1b3e5436782a>





Kitchen Operating Costs Breakdown

DIRECT Costs



Disposal



Cost of Ingredient

Hidden Costs



Manpower



Utilities (Energy, Water, etc.)



Wears & Tears (Equipment)



Social Costs (labour, land, resources, packaging, pollution, LOVE...)



Calculating the Cost of Food Waste



Calculating the Cost of Food Waste

The Advanced Way

Baseline: Aug 28 th to Sep 3 rd		Full Amount	
 Spoilage	10 kg		
 Preparation	1,500 kg	- 50%	3,000
 Buffet	240 kg		
 Plate	1,000 kg	- 20%	5,000
Sum of food waste (kg)	2,750 kg		
Cost/kg (USD)	X \$4 ***		
Sum (USD)	= \$11,000		
Labors & Utilities	+ \$2,200	+ 20%	
Total Cost (USD)	= \$1,885 per day = \$13,200 per week = \$688,285 per year		

Food waste
= \$1,885 /day
= \$688,285 per year

Food Waste is happening EVERYWHERE



Restaurants



Hotels



Canteens



Likely run by external
food service companies



Hospitals



Culinary
Schools



Airport



Army Camps



Theme Parks



Supermarkets



Cruise Lines



Schools / University



Shopping Malls

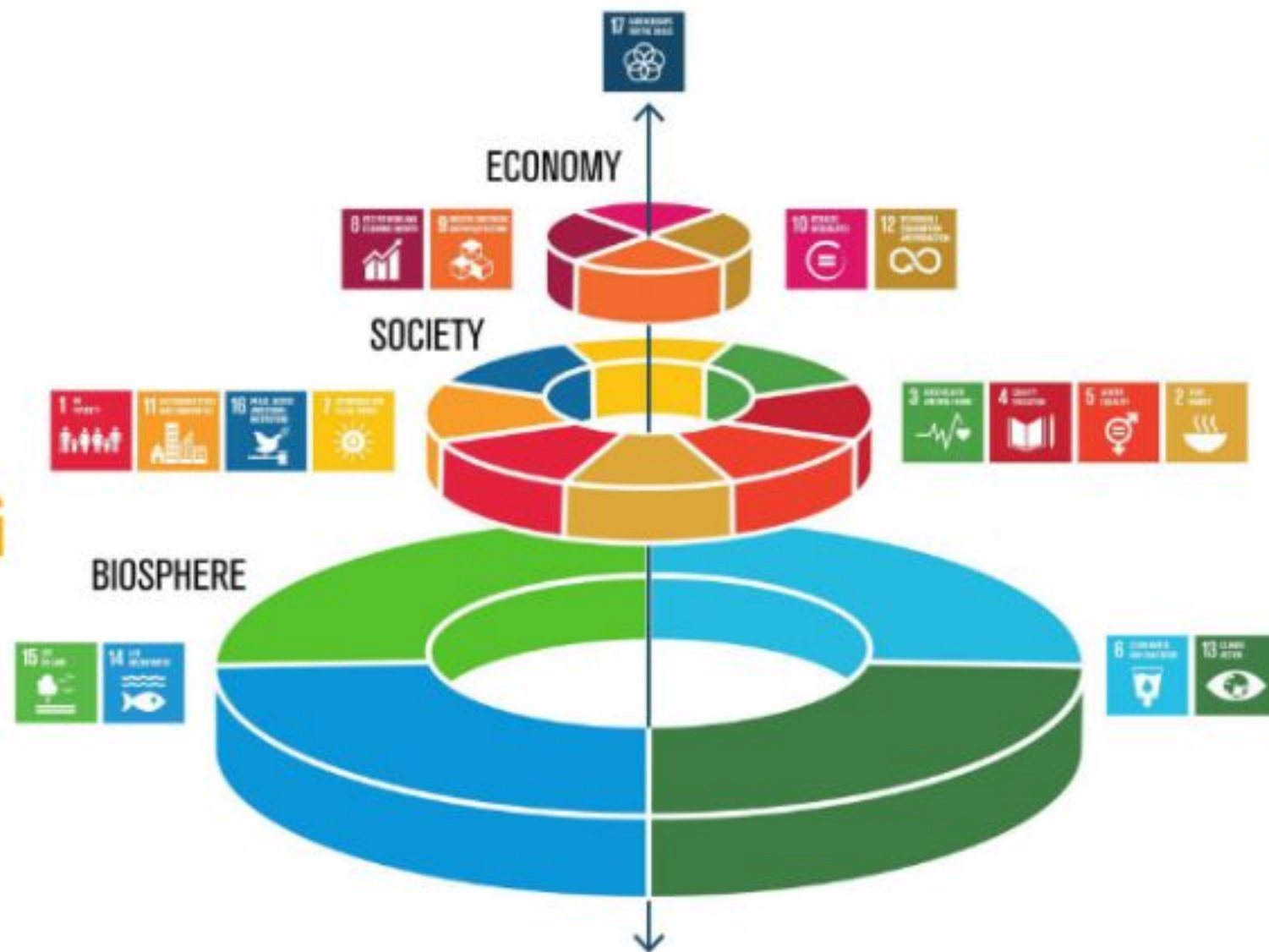


Events and Conferences



FOOD: the common link

**FOOD
CONNECTS
EVERYTHING**



Source: Stockholm Resilience Center



Tackling Food Waste - PRIORITIES

ZERO Food Waste
to **LANDFILL**



REDUCE



FEED PEOPLE



FEED ANIMALS



TRANSFORM



LANDFILL





Solutions for **Transformation**

2
ZERO
HUNGER



12
RESPONSIBLE
CONSUMPTION
AND PRODUCTION



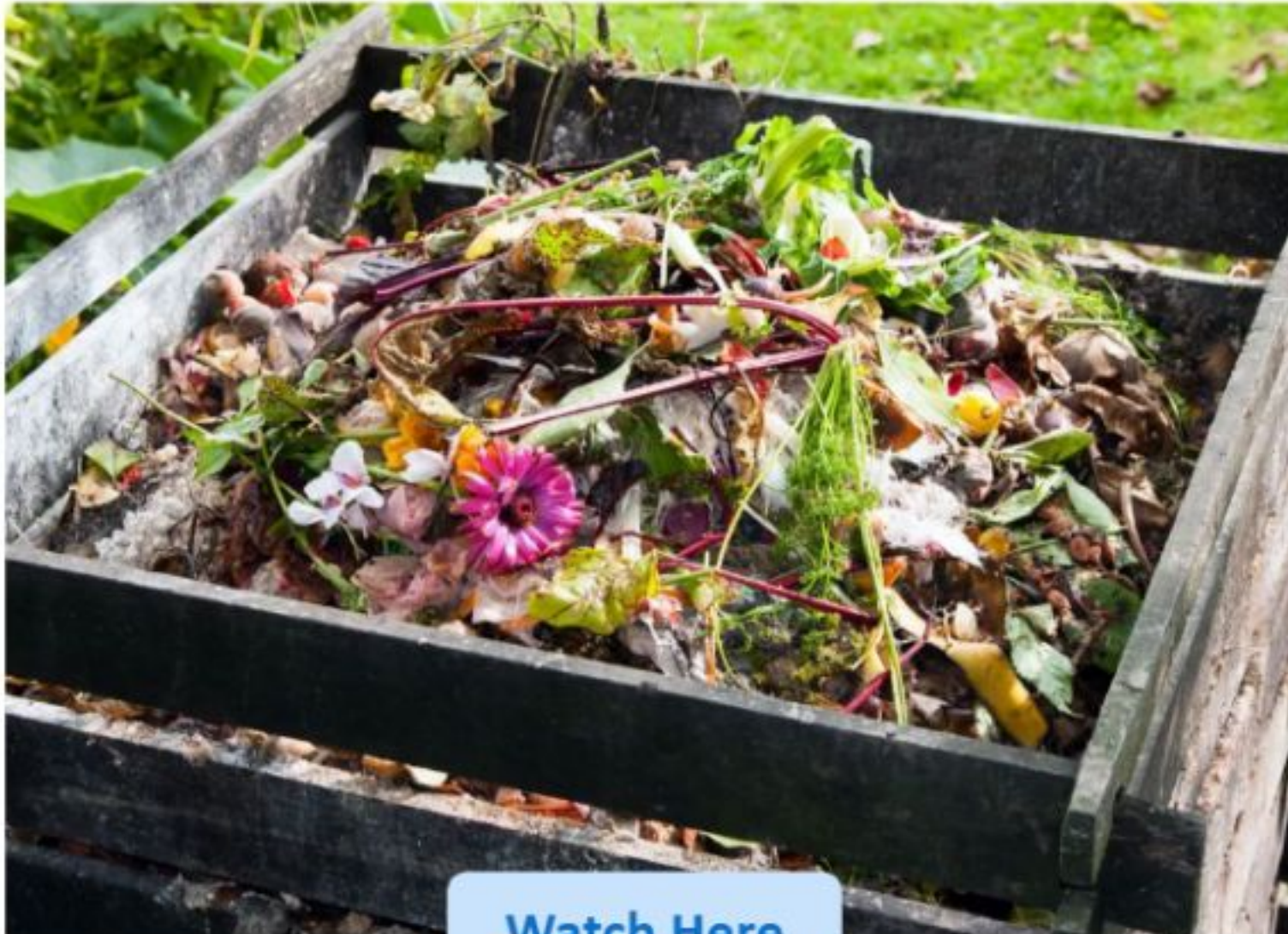
13
CLIMATE
ACTION



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PARTNERSHIPS
FOR THE GOALS



Composting Food Waste



[Watch Here](#)



Transforming Food Waste – Biodigester



Sludge



BAD



Biogas



OK



Fertilizer



GOOD



Upcycling Food Waste – Biodigester (2/2)



A larvae can eat **4X its weight** a day!



500kg of food waste from food suppliers, stalls and homes is recycled each day by about 100kg of black soldier fly larvae.



Benefits: \$300/t. of Food Waste
→ \$200 from selling larvae +
\$100/t. from selling fertiliser.





Solutions for **Prevention**

2 ZERO
HUNGER



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Food Waste in Hospitality: A Costly Misunderstanding



Businesses with no food waste monitoring system
waste 3 to 5x MORE
than they think!



Buffet waste represents
10-15%
of all food waste.



The Food Cost % is incomplete:
25-42% of the volume
of food purchased typically
ends up in the bin.



Food Waste represents
6 to 14%
of the Food Revenue.



Solutions Overview



TECHNOLOGY



CERTIFICATION



TRAINING &
CONSULTING



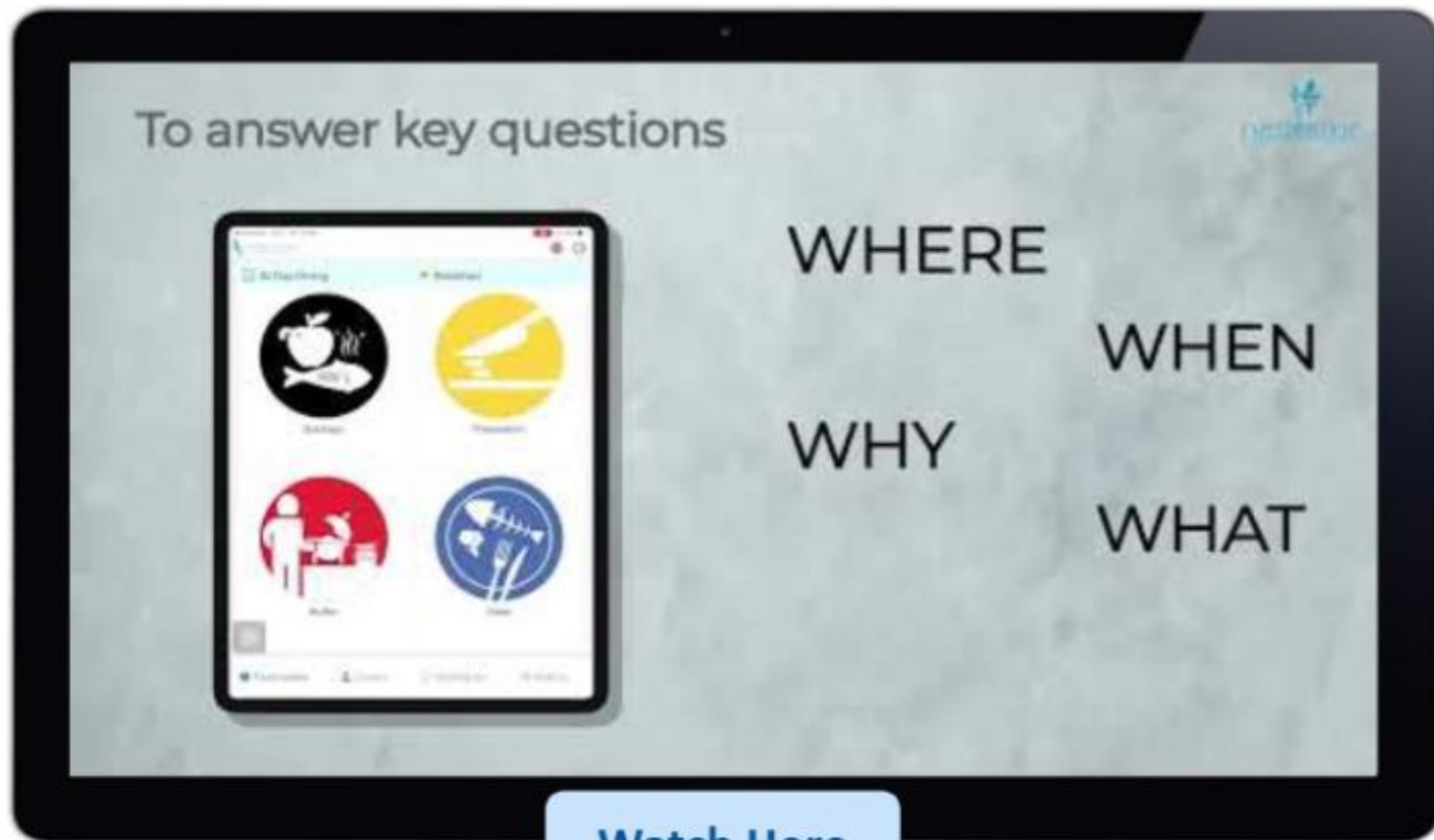


FOOD
| INTEL
TECH

The Crucial Role of **DATA**



FIT Solution Overview



Awarded



Smart FIT - Food Waste Tech



TRACK and **REDUCE**
food waste and associated costs **at multiple locations**



Smart Scale

Mobile App

Web App

FIT is used
in **23**
countries:

GRAND | HYATT
SINGAPORE



getfresh

JW MARRIOTT
BANGKOK

MARRIOTT RESERVE
BANGKOK QUEENS PARK



Holiday Inn
BANGKOK

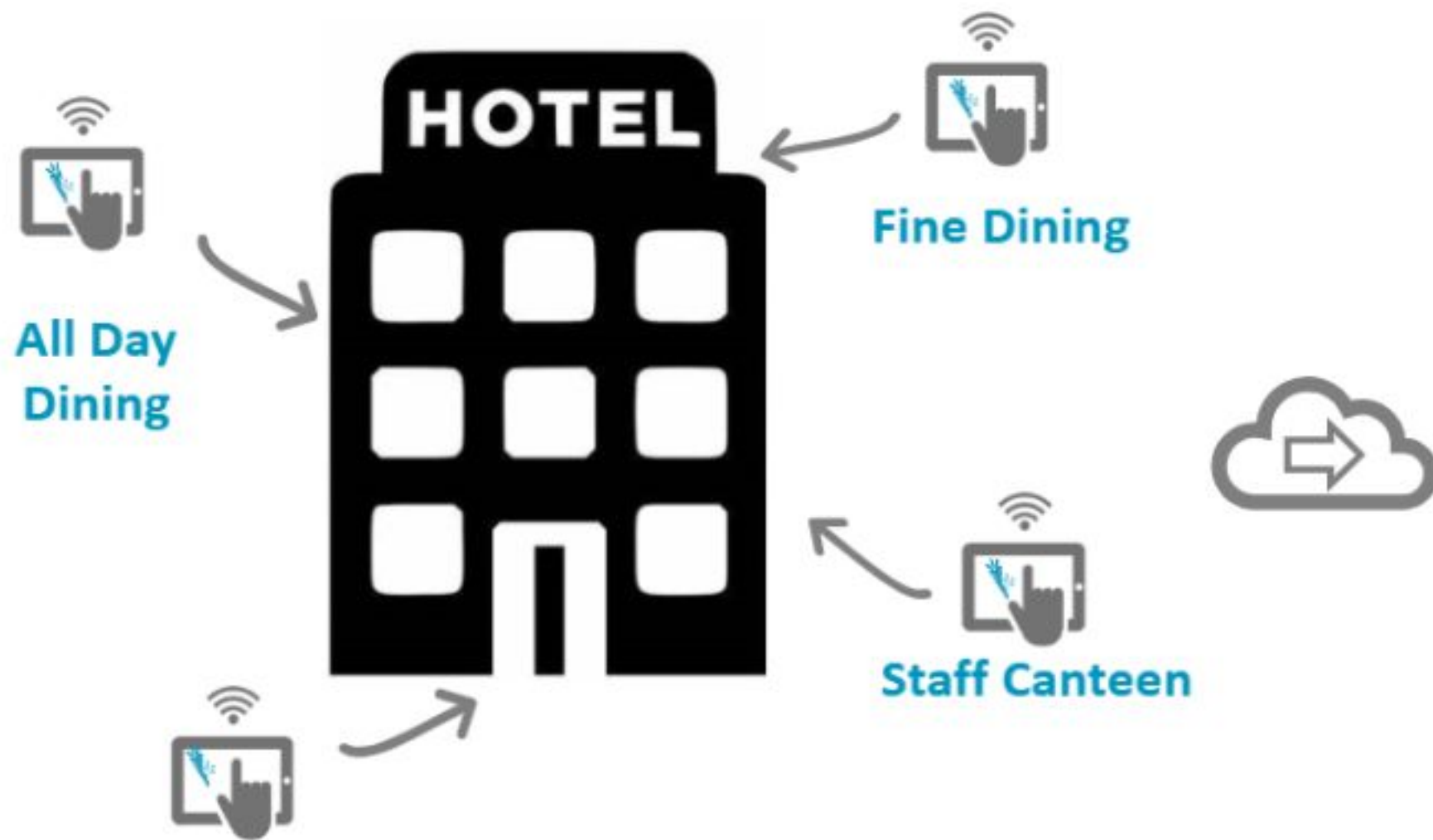
โรงแรม
Bo.lan
Bangkok

MERIDIEN
BANGKOK

SOFITEL
BANGKOK



To be holistic - You need Multiple Recording Points



Cloud Software

+



1 Weekly Report
per Rec. Point



Kitchen's
performance in
11 languages:





Food Waste Awareness Raising

Raising awareness of the importance of the problem and its possible solutions at all levels



Technology: Food Intel Tech (FIT)

Food Waste Monitor & Reduction



Cloud Software

Mobile App

Web App



FIT Weekly Performance Report

Tracking quantity, why, what, when of food waste compared to the baseline



FIT Hacks on Food Waste

Receiving 40+ recommendations, both photos and videos, to guide food waste reduction

Food Waste Categories



Preparation



Spoilage



Buffet



Plate

Financial Impact Analysis

Using financial materials: Weighted Average Food Cost per kg, Cost of Food Waste Calculator, and Monthly Financial KPIs to track costs and savings, along with reviews with the financial team.





The PLEDGE On Food Waste



Cut on **COSTS**



Slash on **FOOD WASTE**



Stand out from the **CROWD!**





The PLEDGE on Food Waste: The New Industry Standard



A 3rd-party certification and benchmarking system designed to **fight food waste**, **reduce costs**, and **nurture the local ecosystem** of solution providers.



17 COUNTRIES

Including Thailand, Indonesia, UK, USA, Spain, UAE, Mauritius, China and more...

ENDORSED by:



PROCESS DOCUMENTATION



OTHER PLEDGERS:



and more...



The 4 Levels of PLEDGE Certification



95 CRITERIA = 100 points



COMPULSORY

78 Criteria = 70 points



BONUS

17 Criteria = 30 points



70-79%



80-89%



90-99%



100%

Note: You must receive a minimum of 70 points from the third-party audit to get certified.





LUMINERY COLLECTION HOTEL, BANGKOK
1 WIRELESS ROAD (SATHAYUK)
1 MPRI, PATHUMVANI, BANGKOK 10000 THAILAND
HS 2003 RTD EXT 8285 — M 06 8 5586 8838
info@lumineryhotel.com
lumineryhotel.com





The PLEDGE: Opportunities & Benefits



PRACTICAL & SCALABLE:

Uniform methodology designed for and by professionals, easy access to criteria and compliance 100% online



BENCHMARKING SYSTEM:

Performance metrics across properties and "gamification"



BRANDING & POSITIONING:

ESG Reporting integration, attract new customers looking for sustainable solutions, empower employees generating commitment and engagement to sustainability



COMPLIANCE:

Comply with Changing Regulations





Case Studies

2
ZERO
HUNGER



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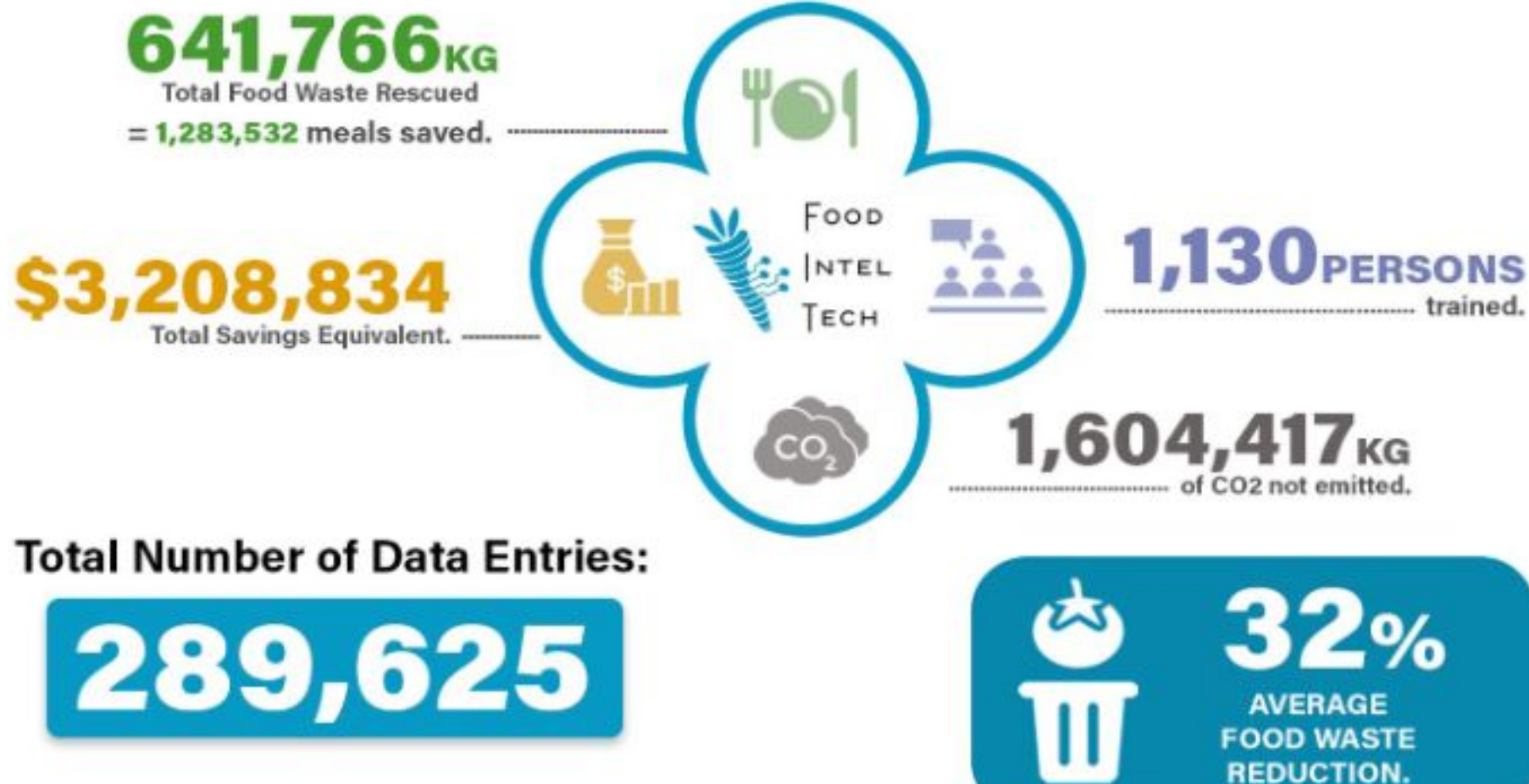


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PARTNERSHIPS
FOR THE GOALS



Case Study - Hyatt APAC 2023 Results

HYATT



JAN-DEC 2023

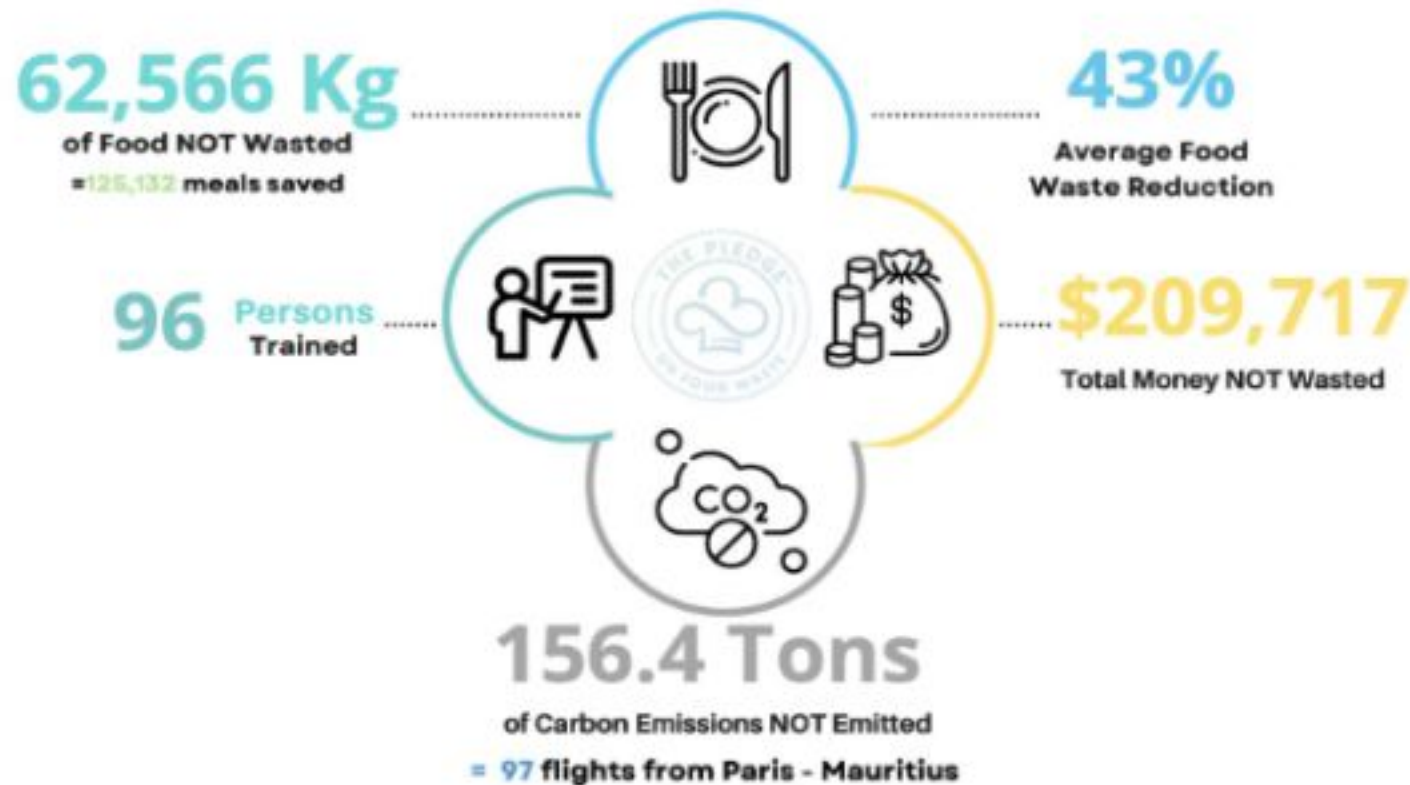


Case Study - Mauritius

9 Month Journey

10 organizations participated with their restaurants in a project to achieve the international certification The PLEDGE™ on Food Waste.

They reduced food waste, cut unnecessary costs & negative environmental impacts.





Food Waste Prevention in Bali (2023)





Case Study – Build Back Better Detroit

Getting CERTIFIED The PLEDGE



3 sites:

Hillcrest Hall, Vandenberg Hall, Oakland Center



3 sites:

Sylvan Table, Johnny's Speakeasy, Alchemy



1 site:
FOLK

The Impact

- ✓ 3 University Cafeterias, 4 Restaurants
- ✓ +50 F&B staff trained on Food Waste
- ✓ Reduction in food cost (avg. -3%) and disposal fee
- ✓ Increased Customer Engagement



About The PLEDGE



Craig Kuhlmann

*"This really should be **the standard** and will be the standard for any **good kitchen**"*

Restaurant Manager
Alchemy



Evol Gazzarato

*The PLEDGE™ gave us the **momentum to get things done** that we've been wanting to do.*

Resident District Manager
Oakland University at Chartwells Higher Education Dining Services



Danielle Todd

*We brought The PLEDGE™ to Detroit because it takes a preventative approach to food waste which sees the **greatest impact on your bottom line and environment.***

Executive Director
Make Food Not Waste

Funded by



Managed by

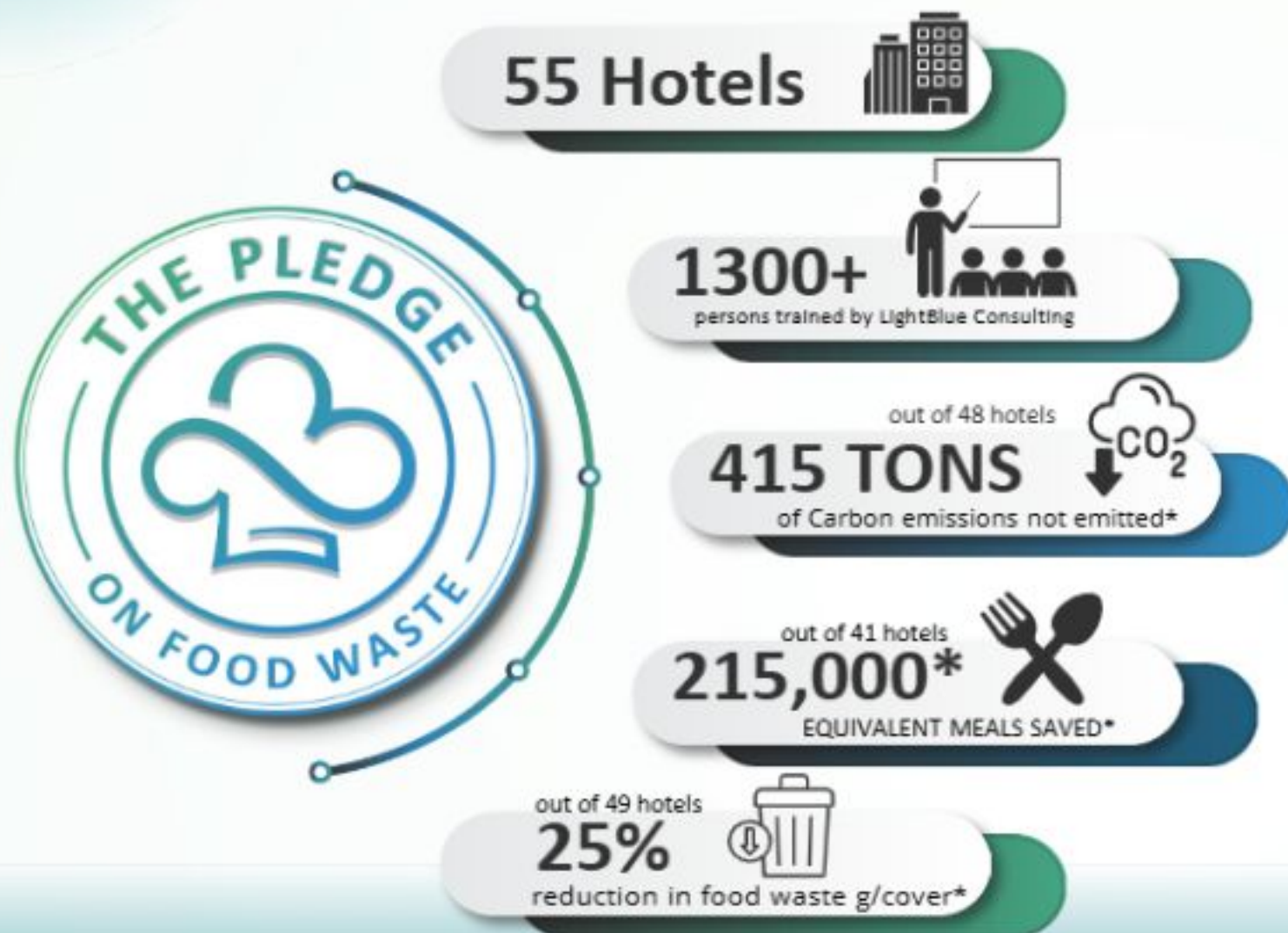


Supported by



UK, Ireland, and Nordics Food Waste Prevention Initiative

Large international hotel chains in the UK, Ireland, and Iceland have been certified by The PLEDGE on Food Waste, advancing the hospitality industry's fight against food waste.



*Data from third-party Jan-May 2024

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GRUNTING | RESPECT FOOD

RESPECT FOOD MANIFESTO
WASTING FOOD IS
WASTING LIFE

[Watch Here](#)

What is YOUR Commitment?

PERSONAL

PROFESSIONAL

**Wanna be a
FOOD WASTE
WARRIOR?**





Online Course Food Waste Prevention

**lightblueconsulting.com/
online-course-on-food-
waste**



Give Away!



THANK YOU FOR YOUR PARTICIPATIONS

To all the participants we want to provide **10 days of LMS for free.**

- Scan the QR Code on the left
- Sign up to LMS
- Enter the discount code "**UNWTO2024**"





LIGHTBLUE

www.lightblueconsulting.com