



**WPO**  
**WORLD**  
**PACKAGING**  
**ORGANISATION**

Better quality of life, through better  
packaging, for more people

We are a  
global network  
of information  
exchange,  
knowledge,  
benchmark and  
best practices  
in packaging.



**GLOBAL** **67 COUNTRIES**  
**+ 4 REGIONAL INTERNATIONAL BODIES**

Better quality of life, through better packaging, for more people

## FSSC is member of WPO since 11/2023

Clear match of the vision/strategy/goals of both organizations; (possible) cooperations for topics like

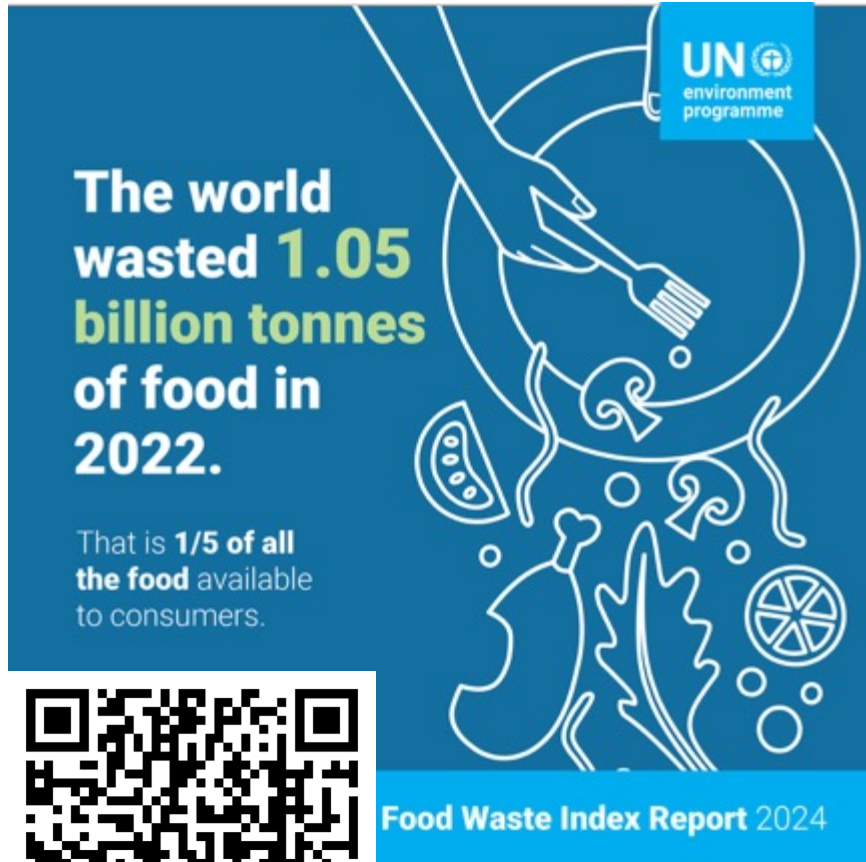
- Sustainability – especially reducing food loss/waste
- Education – e.g. webinar 4.12.2024
- Events, Awards (World Star)
- Awareness about role of packaging (in food technology)
- Food Safety Working Group in WPO



# **Save Food Packaging**

## ***Packaging Innovation and The Link to Food Loss and Waste***





<https://www.unep.org/resources/publication/food-waste-index-report-2024>

Close to 800 Million people suffer from food insecurity, are malnourished or starving.

1.05 billion tonnes of food went to waste.

On average, each person wastes 79 kilograms of food annually.

This is the equivalent of 1.3 meals every day for everyone in the world impacted by hunger.

# REDUCING FOOD WASTE SUPPORTS THE UN SDGs



*“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”*

**SDG 15 Life on Land:** Reducing food loss and waste reduces the need to convert more natural ecosystems into cropland or grazing pastures.

**SDG 14 Life under Water:** Reducing food losses at sea means reducing bycatch. Wasted food uses significant amounts of fertilizers, which contribute to eutrophication caused by agricultural run-off.

**SDG 13 Climate Action:** Reducing food loss and waste reduces the amount of greenhouse gas emissions associated with clearing land, growing, processing, and disposing of food that is not eaten.

**SDG 12 Sustainable Consumption and Production:** Meeting the food loss and waste reduction target would improve the sustainability of food consumption and production.



**SDG 1 No Poverty / SDG 2 Zero Hunger:** Reducing losses means that farmers have more food available for market and to feed themselves.

**SDG 2 Zero Hunger:** Improved storage and handling facilities help smooth seasonal shortfalls and preserve nutritional quality, thereby stabilizing food supplies.

**SDG 3 Good Health:** Reducing quality losses means that food retains more nutritional value. Some food loss reduction practices, such as drying crops on tarps, can reduce the risk of contamination from aflatoxins.

**SDG 3 Good Health/SDG 4 Quality Education/SDG 5 Gender Equality:** Reducing food waste could reduce unnecessary household spending on food and free up money for health, education, and other household benefits.

**SDG 6 Clean Water and Sanitation:** Better utilizing food already grown reduces pressure on freshwater consumption by agriculture and increases efficiency of water use.

**SDG 8 Decent Work and Economic Growth:** Farmer income and prosperity can be increased when they reduce on-farm losses and thereby sell more food.

**SDG 11 Sustainable Cities and Communities:** Reducing food waste in landfills can reduce landfill disposal fees for households and local authorities. It also can enable cities to meet waste, sustainability, and hunger goals.



If **food wastage** were a country,  
it would be the **3rd largest**  
greenhouse gas emitter.



Source: WRI's Climate Data Explorer (2011)

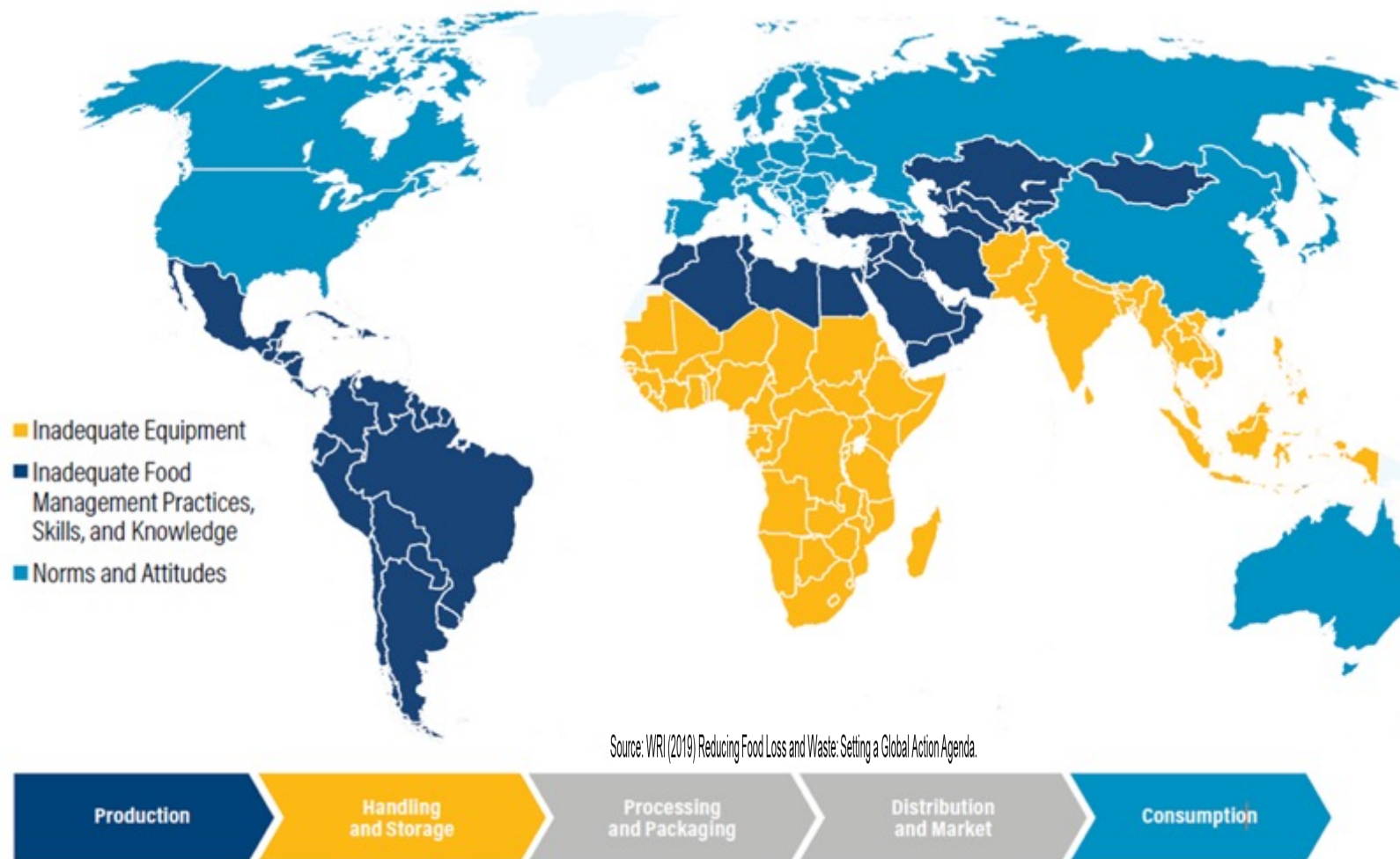
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Food and Agriculture Organization  
of the United Nations



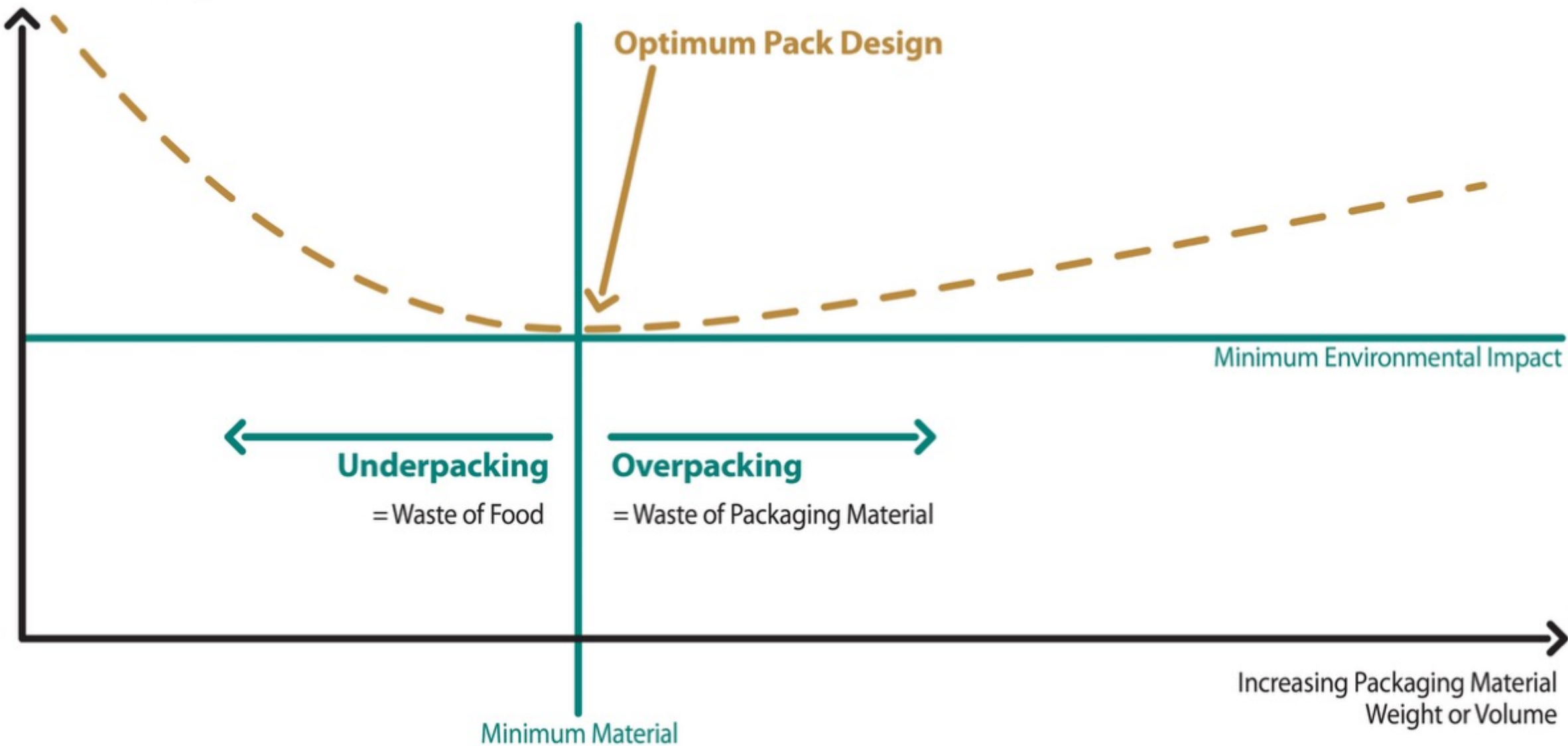
# Food loss and waste causes differ by region







Negative  
Environmental Impact

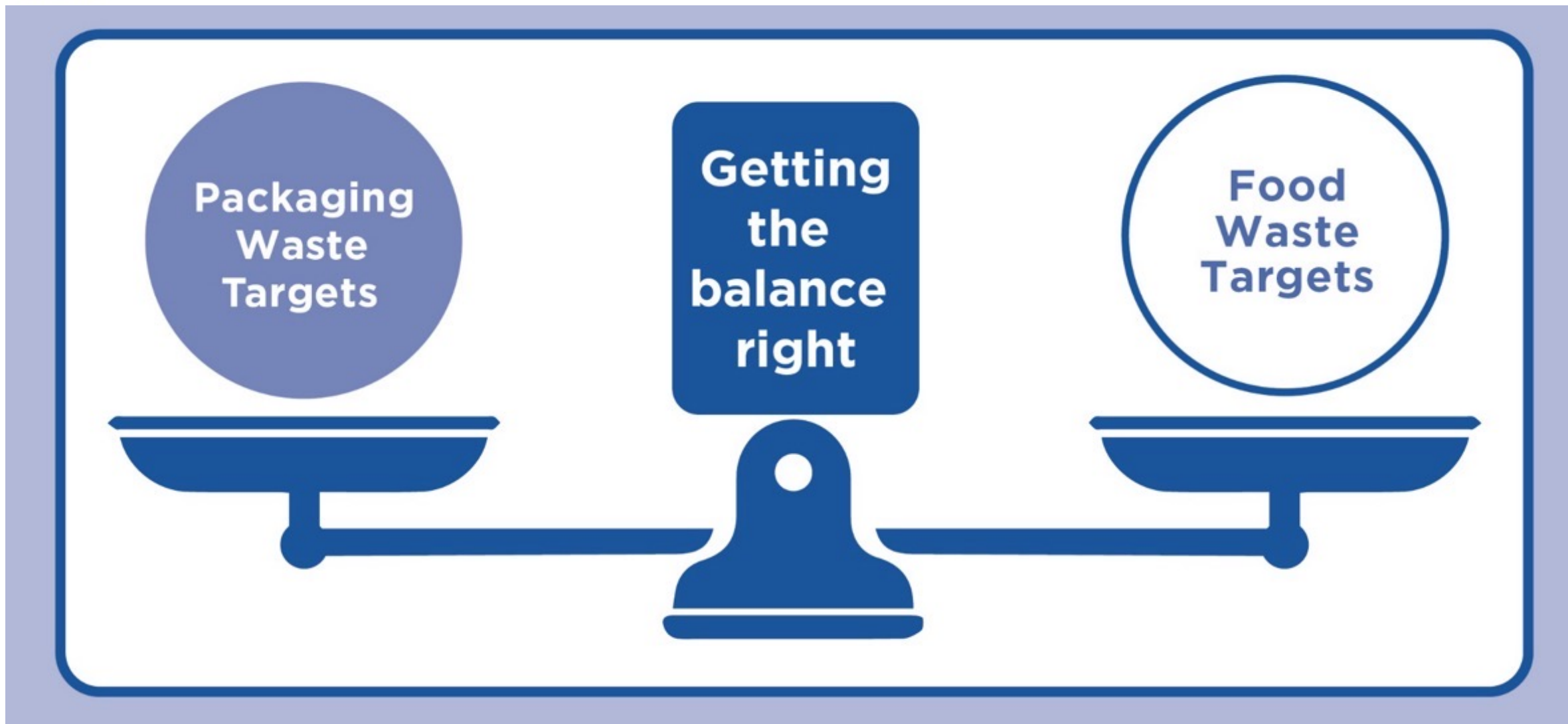


Better quality of life, through better packaging, for more people

# Getting the Balance Right



# Putting all Waste on Equal Footing







# Where does food waste sit within Sustainable Packaging Design?



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Design to  
reduce product  
waste

PRINCIPLE 3:  
DESIGN TO  
REDUCE PRODUCT  
WASTE



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## SAVE FOOD PACKAGING DESIGN

# 1

### DESIGN TO CONTAIN & PROTECT THE PRODUCT

FROM SPOILAGE &  
DAMAGE THROUGH  
MANUFACTURING,  
WAREHOUSING & VARIOUS  
STAGES OF DISTRIBUTION



- 🔗 SECTION SUMMARY
- 👁 CASE STUDIES
- 🔗 ICONOGRAPHY

SAVE FOOD PACKAGING CRITERIA

# 2

### DESIGN TO PRESERVE & EXTEND SHELF LIFE

& ENHANCE  
PRODUCT APPEAL



- 🔗 SECTION SUMMARY
- 👁 CASE STUDIES
- 🔗 ICONOGRAPHY

# 3

### DESIGN TO PROVIDE CONSUMER CONVENIENCE

TO NOT WASTE FOOD  
DURING HANDLING IN  
THE HOUSEHOLD



- 🔗 SECTION SUMMARY
- 👁 CASE STUDIES
- 🔗 ICONOGRAPHY

# 4

### DESIGN TO COMMUNICATE TO CONSUMERS

& PROMOTE HOW TO  
HANDLE, STORE, PREPARE  
& REUSE FOOD PRODUCTS



- 🔗 SECTION SUMMARY
- 👁 CASE STUDIES
- 🔗 ICONOGRAPHY

# 5

### DESIGN TO BALANCE FOOD & PACKAGING WASTE TARGETS

FOR OPTIMAL PACKAGING



- 🔗 SECTION SUMMARY
- 👁 CASE STUDIES
- 🔗 ICONOGRAPHY





# 1

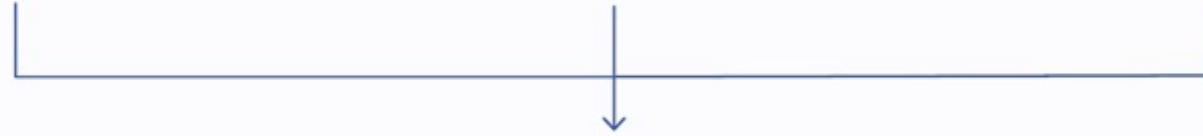


**DESIGN TO CONTAIN & PROTECT THE PRODUCT**  
FROM SPOILAGE & DAMAGE THROUGH MANUFACTURING,  
WAREHOUSING & VARIOUS STAGES OF DISTRIBUTION

PRIMARY

SECONDARY

TERTIARY



- Palletisation
- Stabilisation

- Transport packaging
- Load utilisation

- Tamper evidence
- Leak proof & containment
- Protection from human contamination

- Shocks and vibration
- Temperature & moisture
- Protection from chemical contamination



2



**DESIGN TO PRESERVE & EXTEND SHELF LIFE  
& ENHANCE PRODUCT APPEAL**



## 2 | DESIGN TO PRESERVE & EXTEND SHELF LIFE

### MANAGE PRODUCT ENVIRONMENT IN PACK

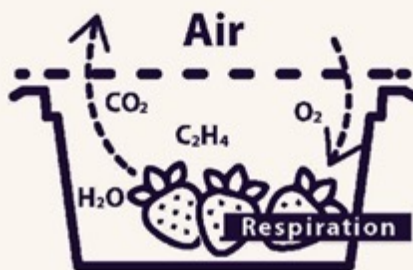
- Appropriate Barrier Performance
- Oxygen & Moisture Barrier Needs
  - Respiration Rates
  - Retain Nutrition

### EXTENSION & BARRIER PROTECTION

- Skin & Vacuum Packaging
- MAP & EMAP Packaging
  - UV Barrier

### ACTIVE & INTELLIGENT PACKAGING

- Traceability & Consumer Engagement Software
  - Sensory Labels & Indicators
  - RFID & NFC Tags (QR/2D)
- Time Temperature Indicators (TTI's)
  - IoT Devices (Internet of Things)
  - Scavengers & Absorbers



3



## DESIGN TO PROVIDE CONSUMER CONVENIENCE

& TO NOT WASTE FOOD DURING HANDLING  
IN THE HOUSEHOLD

### 3 | DESIGN TO PROVIDE CONSUMER CONVENIENCE

#### ACCESSIBLE & INCLUSIVE PACKAGING

- Easy Open
- Reclose & Reseal
- Easy Tear & Grip
- Change of Household Portions
- Reduce Pack Sizes
- Controlled Dispensing
- Ability to Remove Entire Product from pack

#### FUNCTIONAL PACKAGING FOR CONSUMER CONVENIENCE

- Microwaveable
- Added-Value Cooking
- Part Preparation





4



## **DESIGN TO COMMUNICATE TO CONSUMERS**

& PROMOTE HOW TO HANDLE, STORE,  
PREPARE & REUSE FOOD PRODUCTS

## ON-PACK DATE LABELLING

- Best Before Dates
- Use By Dates

## CONSUMER COMMUNICATION

- On-Pack & Off-Pack
- Storage Environment: Refrigerator/  
Freezer / Pantry
- Left-over Ideas & Recipes
- QR Codes & NFC Tags
- Food Preparation



BEST BEFORE DATES

15 03 22

5



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## DESIGN TO BALANCE FOOD & PACKAGING WASTE TARGETS

FOR OPTIMAL PACKAGING

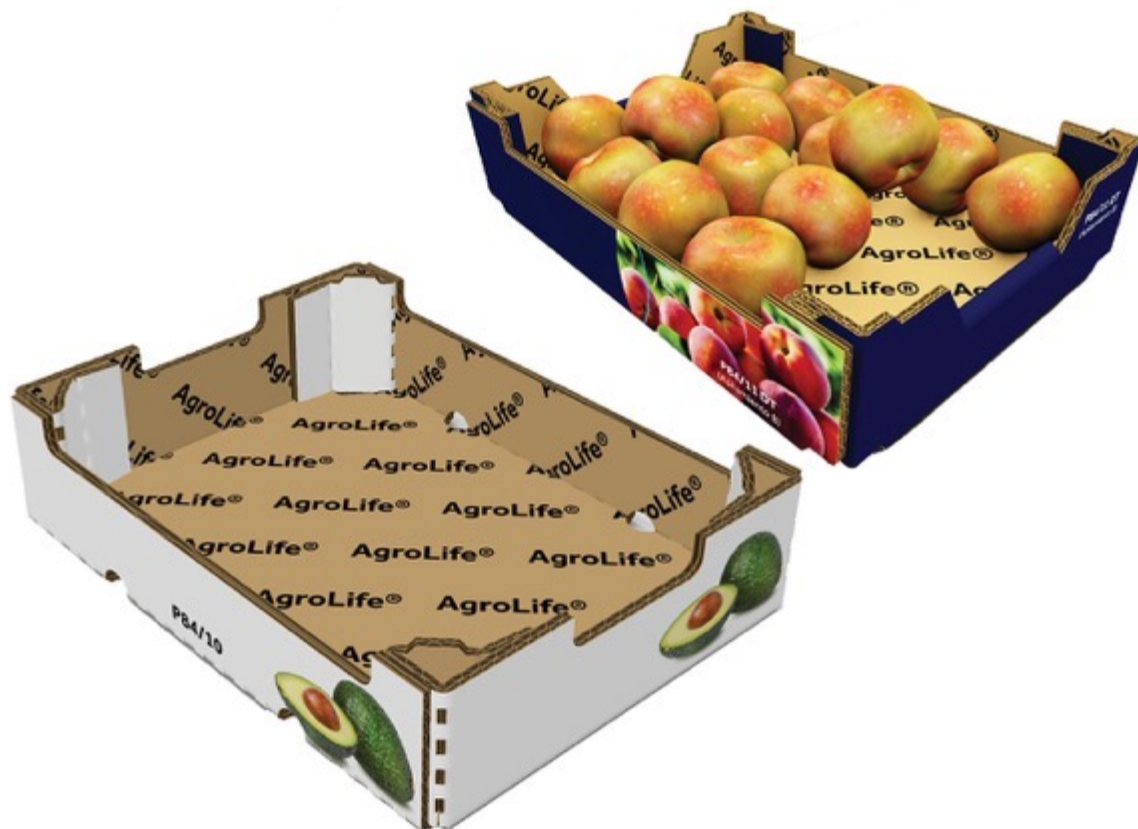
# **What does Save Food Packaging look like in real life?**





# AGROLIFE®

Smurfit Kappa



- AgroLife® treatment is applied to paper-based agricultural packaging.
- 100% food contact friendly.
- Does not affect recyclability.
- Extends shelf life of fresh produce.
- Reduces the losses caused by excess maturation.
- AgroLife® acts via the absorption of ethylene, which delays the ripening process.
- Improves flavour by collecting at optimal point of maturity.



REGIONAL AWARDS PROGRAM



WORLDSTAR  
GLOBAL  
PACKAGING  
AWARDS

COORDINATED BY



WORLDSTAR  
GLOBAL  
PACKAGING AWARDS  
2024 WINNER



WORLDSTAR  
PACKAGING THAT SAVES FOOD  
SPECIAL AWARD  
2024 GOLD WINNER



WORLDSTAR  
WINNER  
2023



## 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD GOLD WINNER

- ✓ Contains Copper microparticles
- ✓ The microparticles inhibit the development of microorganisms
- ✓ Extends shelf life by up to 250%



- ✓ Ideally suited for cheese and fresh processed meat such as ham, bacon and fresh chicken
- ✓ Preserves and protects products through the all value chain

REGIONAL AWARDS PROGRAM



COORDINATED BY



**Company:** Amcor Chile - Copperprotek  
**Product:** LifeSpan copper based film  
**Country:** Chile



## AMCOR COPPERPROTEK



LifeSpan copper based film - Amcor Chile - Copperprotek

### KEY FEATURES

- Contains Copper microparticles
- The microparticles inhibit the development of microorganisms
- Extends shelf life by up to 250%
- Ideally suited for cheese and fresh processed meat such as ham, bacon and fresh chicken
- Preserves and protects products through the all value chain

**amcor** Amcor is a global leader in developing and producing responsible packaging solutions for food, beverage, pharmaceutical, medical, home and personal care, and other products. Amcor works with leading companies around the world to protect their products and the people who rely on them, differentiate brands, and improve supply chains through a range of flexible and rigid packaging, specialty cartons, closures, and services. The company is focused on making packaging that is increasingly lighter weight, recyclable and reusable, and made using an increasing amount of recycled content.

**COPPERPROTEK** Copperprotek is a leading Chilean biotechnology company in the use of biotechnologies to streamline the food production and marketing chain. They believe that their technological developments are a scalable and cost efficient solution to ensure that your food reaches your markets and consumers in the best possible conditions.



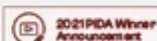
<https://worldpackaging.org/wpo/47/>



## JUNEE LAMB



- Meat contributes 20% of all carbon footprint in landfill
- No more leaking packs
- Recyclable through soft plastics programs
- Tear puncture, tear and abrasion resistant design
- Built-in bone guard protection in areas that need it the most



COORDINATED BY



INTERNATIONALLY  
ENDORSED BY



EXCLUSIVE  
ENTRY TO



WORLDSTAR  
WINNER 2022



2022  
WORLDSTAR  
SAVE FOOD  
SPECIAL AWARD  
WINNER



## JUNEE LAMB



[http://aipack.com.au/  
save-food-packaging-  
design-case-studies/](http://aipack.com.au/save-food-packaging-design-case-studies/)



# Kenya - Hermetically Sealed Bags for Maize





# Save Grain. Save Life

## *Post Harvest Storage Solutions*

**Hermetic bags that allow you to store produce longer without any food waste**

- **The bags protect against any food loss from insects, pests or infestation.**
- **Preserves original moisture content of the food.**
- **Minimum oxidation.**
- **Preserves aroma.**
- **Aerobic atmosphere – no quantity loss.**
- **Weather resistant.**
- **Improves storage of food.**





# Save Food Case Studies available on WPO Website

## SAVE FOOD PACKAGING WORLDSTAR AWARD WINNING INNOVATIONS



**LifeSpan Copper Based Film**  
WINS 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD



LifeSpan copper based film - Amcor Chile - Copperprotek

**KEY FEATURES**

- Contains Copper microparticles
- The microparticles inhibit the development of microorganisms
- Extends shelf life by up to 250%
- Ideally suited for cheese and fresh processed meat such as ham, bacon and fresh chicken
- Preserves and protects products through the all value chain

Amcor is a global leader in developing and producing sustainable packaging solutions for food, beverage, pharmaceutical, medical, home and personal care, and other products. Amcor works with leading companies around the world to protect their products and the people who rely on them, effective brands, and improve safety through a range of flexible and rigid packaging, specialty cartons, drums, and services. The company is focused on making packaging that is increasingly lighter weight, recyclable and reusable, and made using an increasing amount of recycled content.

Copperprotek is a leading Chinese biotechnology company in the use of biomaterials to streamline the food production and marketing chain. They believe that their technological developments are a scalable and cost-efficient solution to ensure that your food reaches your markets and consumers in the best possible condition.

**IceCoat - Mini fridge without electricity**  
WINS 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD



IceCoat - Mini fridge without electricity  
STREIFF Gruppe - Sven Holger Steff and Mark Bismelinger

**KEY FEATURES**

- Minimises food waste
- Developed with renewable and recyclable materials
- More Material FSC Certified Materials
- Ideal for E-Commerce
- Ideal for Cold Chain transportation
- Withstands the rigours of transport
- Protects the product
- The unique ice jacket maintains the temperature

STREIFF Gruppe specialises in high quality packaging, from more complex solutions and medical packaging developments that are essential for exporters in the packaging industry. They supply their customers with packaging products of the highest quality from other countries in Germany. Their customers appreciate the demand since their experience and skills in packaging work at the state of the art, along with its highest speed and product packaging in the highest level.

As a recognised specialist in logistics and fulfilment, they can offer you the advantages of not only top-shelf high quality packaging, state-of-the-art fulfilment, individual material packaging and fully automated packaging. The STREIFF Group includes the packaging companies Steff & Bismelinger and Richard Bismelinger GmbH.

**Junee Prime Lamb**  
WINS 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD



Junee Prime Lamb  
Junee Prime Lamb & SEE

**KEY FEATURES**

- Great contributes 20% of the carbon footprint in lamb
- No more leaking packs
- No more food & water waste due to leaks
- Withstand rigours of storage & transport
- Packaging info is improved
- Australian Recycling Label (PRL compliant)
- Hygienic, strong barrier focus increases shelf life to 30 days
- Ideal for export market
- Tear puncture, tear and abrasion resistant design
- High oxygen barrier properties
- Built-in down guard protection in areas that need it the most
- Bonus Guard can be purposefully positioned in bag

Family owned and operated since 1987, Junee Prime Lamb has quickly grown to become one of the leading producers of premium quality Australian lamb. From humble beginnings processing lamb, goat and pork for local customers, they now specialise exclusively in prime Australian lamb and supply to many parts of the world.

Food partners with its customers to solve their most pressing resource challenges by delivering new solutions derived from its unmatched industry knowledge and expertise. These solutions create a more efficient, secure and sustainable global food supply chain and enhance a sustainable through and packaging solutions to protect the worldwide movement of goods.

**ThermoShield Temperature Monitoring System - Food Caps & Closures**  
WINS 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD



ThermoShield Temperature Monitoring System - Food Caps & Closures

**KEY FEATURES**

- Design for Product Waste
- Design for Accessibility
- Ideal for food loss & waste
- Tracking via cold chain
- Colour determines when temperature rises above set parameters
- Thermochromic dye technology
- Changes colour as environment changes
- Optical system - dynamically changes appearance at preselected temperatures
- Allows for colour changes - black to orange to red as pack gets warmer
- Extends Shelf Life

Caps and Closures is an Australian owned and operated company that has been designing and manufacturing award-winning innovative plastic packaging solutions for over 30 years. Caps & Closures maintains a global industry and research leaders network to ensure that their in-house design team is in tune with the packaging industry's most developments.

**Modified Atmosphere Technology**  
WINS 2023 WORLDSTAR PACKAGING THAT SAVES FOOD SPECIAL AWARD



Modified Atmosphere Technology  
Masterpack Group/Somax

**KEY FEATURES**

- Modified Atmosphere material solution
- Sensor spot technology to measure oxygen, humidity rates
- Transforms Flexible Intermediate Bulk Containers
- Extends shelf life of products
- Optimises storage
- Improves shipping efficiencies
- Lies tracking and trace of products

Masterpack is the leading expert in innovative packaging solutions. With their unique and fully integrated solution to create Modified or Controlled Atmosphere (CMA), they provide increased protection and extended shelf life of products, decreasing waste and loss of product and improving the quality of products.

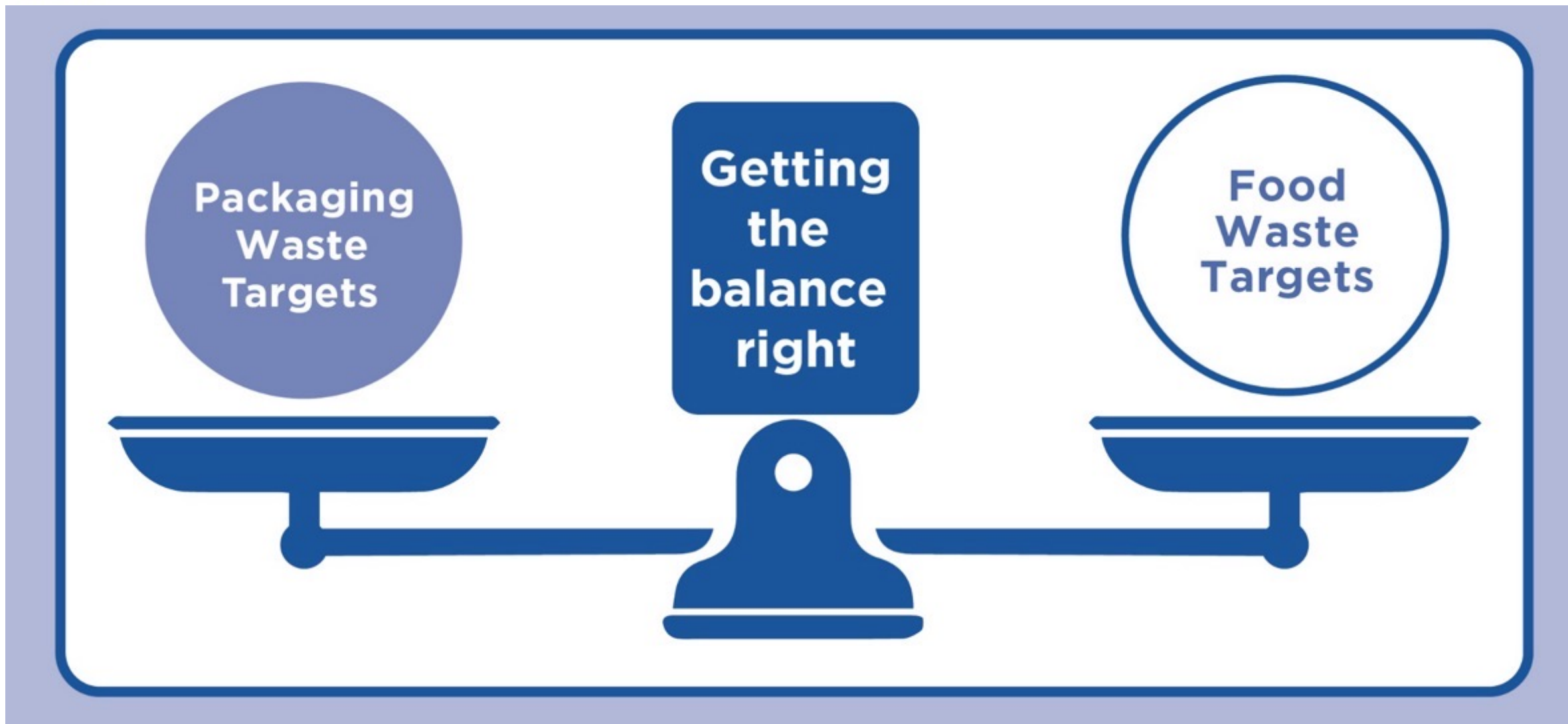


<https://worldpackaging.org/resources/46/>

<https://worldpackaging.org/wpo/47/>

<https://worldpackaging.org/wpo/6/>

# Putting all Waste on Equal Footing



# Contact

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