

Packaging for Sustainable Food Safety



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Content

- **Packaging**
 - Food Safety
- **Sustainability**
 - Prevention, Reduction & Renewables
 - Recycling, Plastics & Environment
- **Consumer Trends & Future Sustainability**



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Packaging

The Packaging

Sustainably

(3 + 1) S

Surrounds

Saves

Sells

The Product



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FOOD SAFETY



70% used for

- food and drink,
- healthcare,
- cosmetics,
- other consumer, products

Other 30%, used for industrial purposes.



The Purpose of Packaging

- Primarily to **protect** or **preserve** its contents and,
- Secondly to improve the products **presentation**.



Packaging is the **Dress** of Product



Packaging is the **Shield** for food

The Purpose of Packaging



- The ultimate and real purpose of modern packaging is set by the modern and liberal world as:
Improve the life standard of the consumers.
- Packaging is a strategical tool for trade;
Packaging Industry enables marketing of **industrial** and **agricultural** products



Packaging Requirements

- Protection against external environment
- Mechanical protection
- Function
- Security
- Inertness
- Cost
- Information
- Appearance/Presentation



Food Safety & Packaging

- The purpose of focusing on Food and Packaging interaction
 - To secure packaging Conformity
 - To guarantee Consumer Health
- Under normal conditions Packaging or Food Contact Materials should
 - not threat the human health
 - not change the composition of food
 - not change organoleptic characteristics of food
- Drivers
 - **Consumer Perception**
 - Legislation



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Toxic America Plastics

Food packaging is full of toxic chemicals - here's how it could affect your health

If you care about what you eat, you should care about what it comes in



Should I put plastic containers in the microwave?

The claim

When you heat food in the microwave using plastic containers or wrap, chemicals may leach out of the container and into the food, increasing your risk of cancer.



The truth

There has been some concern that food may absorb plasticizers, the substances used in plastic containers and wraps to make them more flexible. Many people are especially concerned about microwaving at high temperatures or heating fatty or oily foods like cheese and meat. But plastic containers that release anything more than a very small amount of plasticizers are not approved for use in Canada.

How to safely store and reheat food

- Use glass, ceramic and plastic containers and plastic wrap that are labeled as microwave safe. Always follow the instructions on the label when you use microwave-safe containers to heat food.
- Never heat or store food in plastic containers that were not intended for food. Single-use containers, like margarine tubs, tend to warp or melt in the microwave. This may allow more of the substances in the plastic to leach into the food.

The Washington Post
Democracy Dies in Darkness

Health

You're literally eating microplastics. How you can cut down exposure to them.



Even in every breath, you're almost certainly taking in tiny particles along with it. These ubiquitous

Plastic tock tick tock

Time is running out for plastic. For over 40 years we've relied on it to package our products. It's cheap, light and easy. It's also clogging up our oceans. Harming sea life and getting into the food chain. Every minute, an enormous amount of plastic finds its way into the water. This has to stop. By 2022, we aim to have eliminated all plastic packaging from our own brand products. It won't affect our prices. But it will help tackle a growing problem. We hope other retailers follow our lead. Because future generations shouldn't have to pay for tonight's dinner.

#toocoonforplastic

Iceland





trendyol

Aradığınız ürün, kategori veya markayı yazınız

Hesabım Favorilerim Sepetim

KADIN ERKEK ÇOCUK EV & MOBİLYA **SÜPERMARKET** KOZMETİK AYAKKABI & ÇANTA SAAT & AKSESUAR ELEKTRONİK SPOR&OUTDOOR

Çok Satanlar Fırsat Ürünleri 1 Günde Kargodan En Favoriler Kuponlu Ürünler Birlikte Al Kazan Ev Bakım Kişisel Bakım İçecek Pet Shop

SÜPERMARKETTE FENOMEN SEÇİMLER EN BEĞENİLENLER 3 Evim - 1 Aram

TÜM SAĞLIK İHTİYAÇLARINIZ ACUVUE ÖZEL FİYATLAR 12 Evim - 21 Aram

TEMEL MUTFAK İHTİYAÇLARINIZ ÇOK SATANLAR 17 Evim - 7 Aram

Süpermarkette Fenomen ... Tüm Sağlık Ürünleri Temel Mutfak İhtiyaçları

Öne Çıkanlar

ESNAFDEDE Galoş Tek Kullanımlık Ayakkabı Kılıf... 54,99 TL

Yudum Ayçiçek Yağı 5 lt 189,90 TL

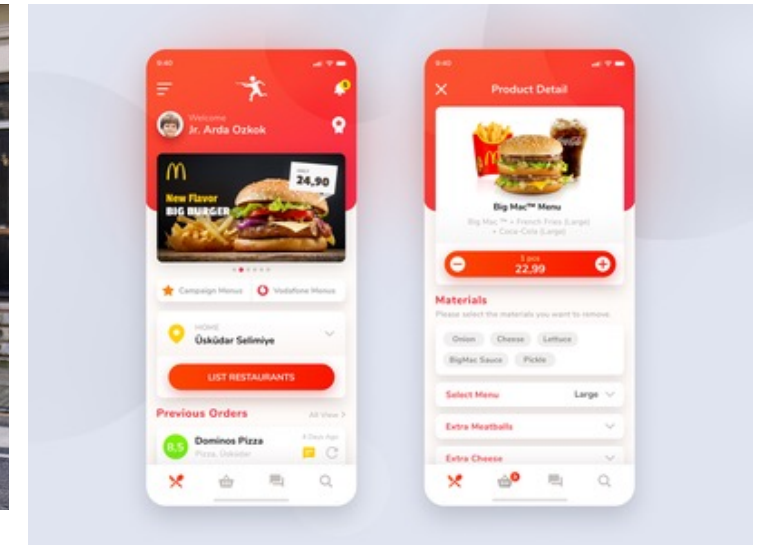
ÇİDEM'S Kabak Lifi Vücut İçin → Yüz Kabak Lifi + Kelebek... 29,16 TL

Yumuş Sprey Yıkaması Zor Eşyalar Lilyum 450 Ml Tadet... 74,90 TL

epavm Yüz Jileti Ve Kaş Usturası Kadın Jileti... 13,65 TL

Tüm Ürünleri

Herbalife Bit Limon Çay 5C 104 TL



Packaging Perception

In today's economy there is an important question to be answered:



What should we give priority for sustainable social welfare?

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"More consumption for economic development" model?



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Or



Conservation of resources?

a problem waiting for a solution



“A few grams of packaging material as an important environmental problem when considering

Several kilograms of **rotten fruit** is ignored.”



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Products without packaging are exposed to risks



FOOD SAFETY NEWS



Our purpose should be

*Better life through better
packaging for more people*



Packaging Perception

The image of the packaging after use is preventing the perception of its most important function.

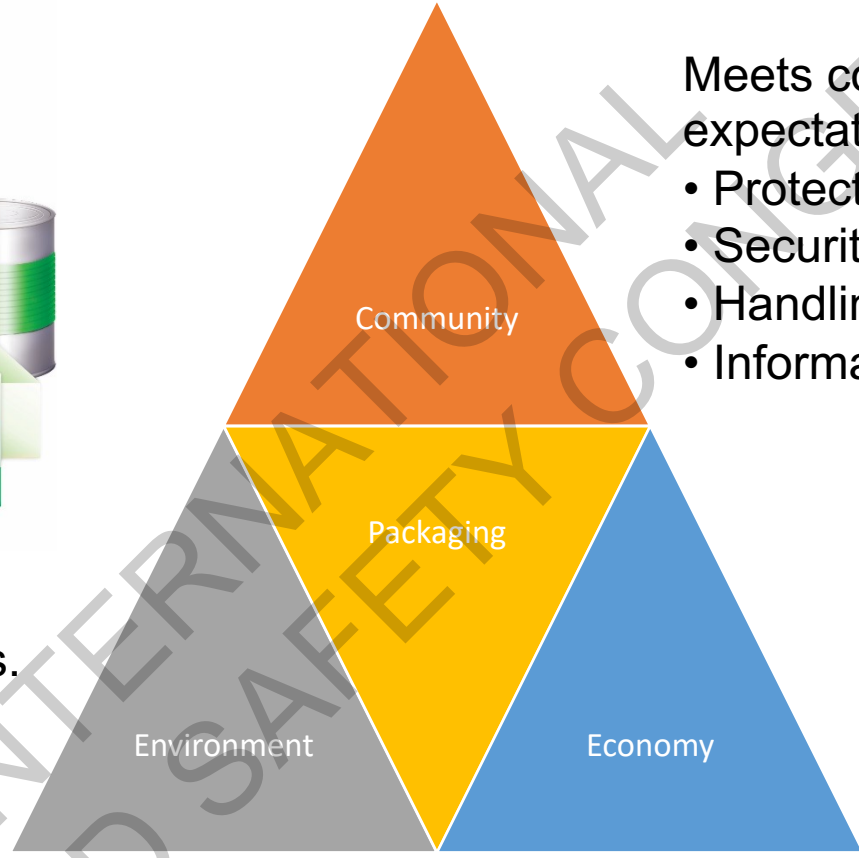
This function is to protect the product.

If the products are protected by suitable Packaging to prevent decomposition, actually, product waste will be less and so less Packaging will be used.





Saves resources
more than it uses.



Meets consumers
expectations:

- Protection
- Security
- Handling
- Information



Puts products on the
market.

Recovery brings
money.





Surrounds , Saves , Sells

3 + 1 S

Packaging should be obliged to achieve this mission **sustainably** to protect Environment and Natural Resources.





Sustainability

Environment

- Do shoppers know which packaging systems are better for the environment?
- Do environmental considerations have an impact on their packaging preferences and purchase decisions?

Design to minimise impact on the environment



Environment

Consumers are concerned by:

- the litter in the oceans
- over-packaging

Packaging Education



Prevention of
Packaging Waste

Remove Packaging

Reduce Packaging

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Remove Packaging

Key initiatives

- No Packaging / bulk shopping



Opportunities

- Value for money
- Little waste



Risks

- **Low product preservation**
- **Low consumer convenience**
- **Low product choice**
- **Increased risk of food waste**

Reduce Packaging

Key initiatives

- Smaller/lightweight Packaging
- Lighter pack type
- Renewable/bio-based material



Opportunities

- **Smaller packs: more suitable for on-the-go consumption**
- **Less product waste through portion control**
- **Lighter packs: lower logistical costs, higher brand image**

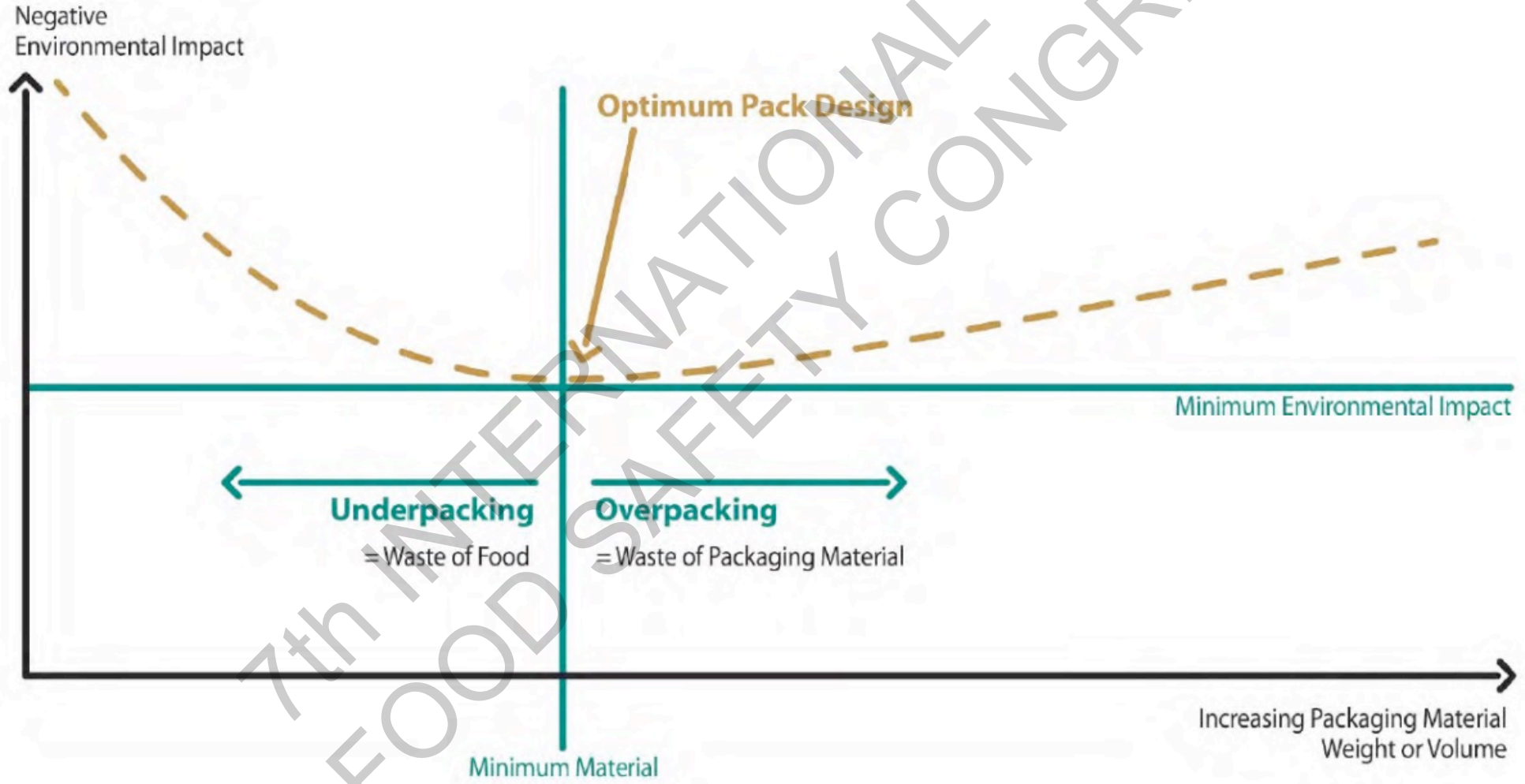


Risks

- **Smaller packs: more frequent purchase**
- **Lighter packs: possibly lower physical properties of packaging**
- **Can be more difficult to identify and handle at recycling centers**

Our purpose should be to develop high performance products with less material.

Underpacking as Danger



Reduction

Green Technology



Elif - ElifHybr Hybrid Printing System

No Solvent!

Lightweighting packaging



Şişecam – 20 cl Mineral Water Bottle,
Glass,

140 gr to 110 gr.

Lightweighting packaging



Özler – The Lowest Weight
and High Strength 20 Liter
Canister

17% lightweighting

Refills / Reuse



Pınar - Yoghurt with
Flowerpot Design

Reuse

Renewable materials

Biobased



ElifGreen – Renewable Resourced PE Packaging

Sugar Cane

Biobased



Naksan – Bubble Wrap Compostable Cargo Bag

100% Bioplastic

Alternative to Plastic



Rampak – Alternative to the Plastic Bubble Wrap, Online Shopping



Alternative to Plastic



Onurcan – Tip up Bag, 15 lt Capacity

Fact: Plastics have shaped the modern Civilisation!



JOBS

Over 1.6 million people

The plastics industry gives direct employment to more than 1.6 million people in Europe



Packaged Goods have beneficially transformed the lives of People in the areas of Health, Professional Jobs, Urban Living, Technology and Convenience.



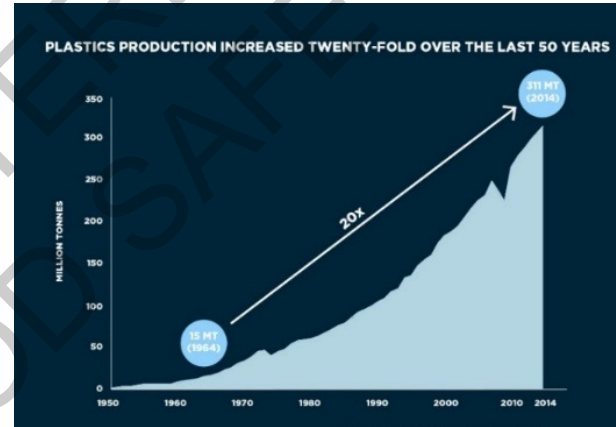
Plastic demand by Sector

Packaging is the biggest end-use market

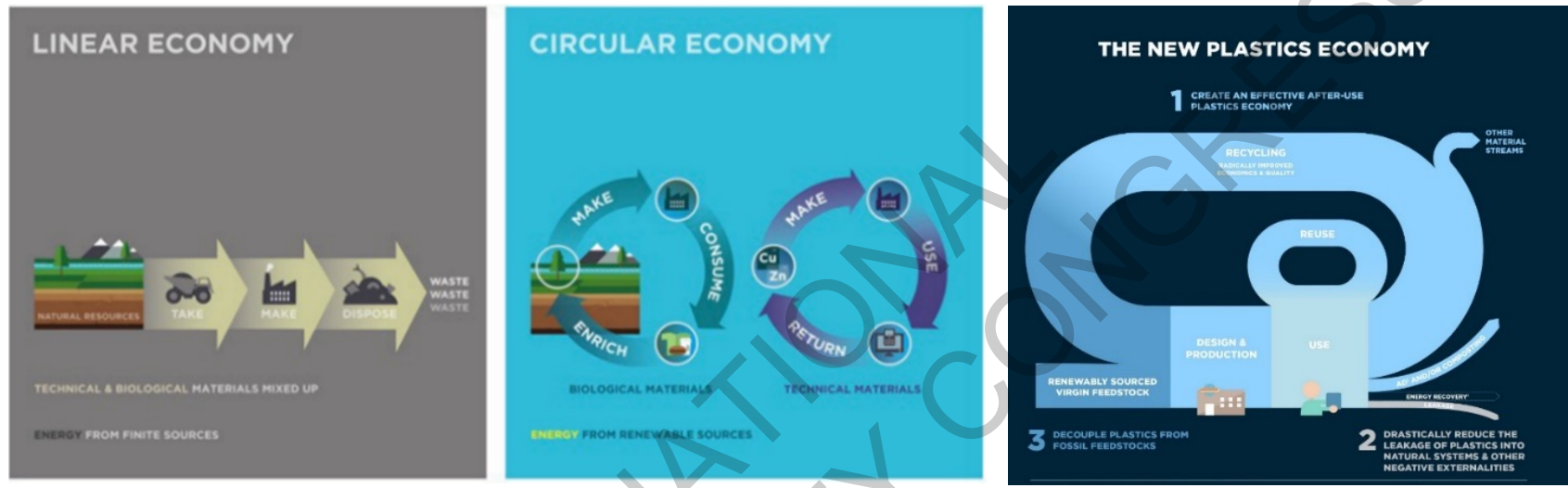


Source: Plastics Europe Market Research Group (PEMRG) and Conversion Market & Strategy GmbH

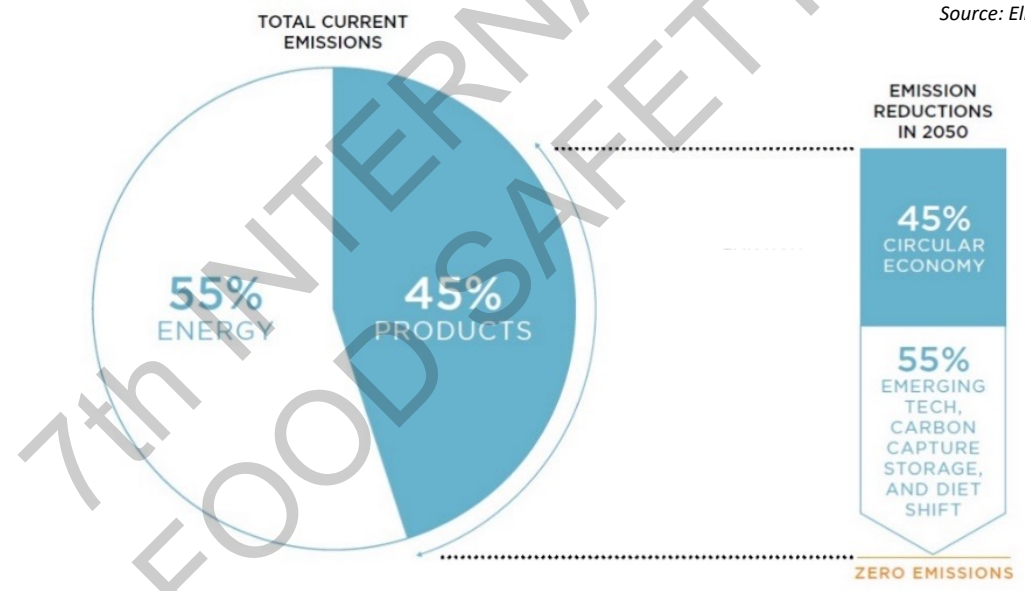
Environmental Plastic Packaging Pollution is the Problem!



Taking Positive action – Moving to a more Circular Economy



Source: Ellen MacArthur Foundation



Source: Completing the Picture- How the Circular Economy Tackles Climate Change

Recyclable & Recycled materials

Recyclable flexible packaging

Recycled label



Mondi Kale Nobel - **Metal Free**
Structure for Chips Packaging



Etapak - **Wrap Around**
Label with **Recycled PET**



Recycled bottle

Recyclable flexible packaging

Danone/Hayat Su - “Eco-Friendly Bottle”
50% Recycled content
The label has a QR code to explain the recycling process



Korozo - KORORCY
Stand-up Pouch – mono PE

Easily recyclable

Examples for Less CO₂ Emissions

Industrial Packaging

Consumer Packaging



Mondi Turkey – Cable Reed

97% less CO₂



Korozo – 51% Green PE
Personal Care Bags

**200 ktons green PE
captures 800 ktons CO₂**

Fast Food Packaging

Transit Packaging



Sem - Milk Shake CUP

20% less CO₂



Mondi Turkey - Flap separator
63% less CO₂



When you recycle packaging, you will have less CO₂ Emissions



Material Recycling (1,000 kg or 1 ton)	Saving Greenhouse Gas / CO ₂ Emissions (kg)	References
Steel	1,512	UNEP
PET	1,500	Meltem Kimya
Glass	670	Şişecam
Cartonboard	326	ProCarton
Aluminum	95	UNEP





Consumer Trends & Future Sustainability



Indulgence

- Growing middle class

Impact to packaging industry

- Design is more important than ever
 - Medium & small pack size / convenience



BOTTLE

SACHET



Premiumisation



- Mass premiumisation

Impact to packaging industry

- Luxurious & authentic packaging
 - Packaging as a brand identity



Winner



Worldstar Winners 2022 –
Marketing Award / Silver

Changing Channel

- Growing of:
 - Modern retail
 - Home delivery
 - Online channel
 - Millennial producers

Impact to packaging industry

- Everything is packaged
 - Short runs through digital packaging.



Sustainability by Design

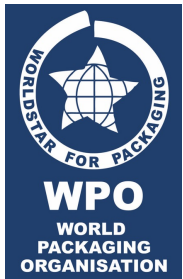
Coca Cola and Indorama
Ventures' **Polyclear 5507**
Extrusion blow molded PET
Resin code #1 instead of #7



- Growing pressure from consumers & regulators
i.e. plastic tax
- Waste reduction; recyclability; environmental footprint

Impact to packaging industry

- Recycling systems
- More demands on sustainable packaging materials and renewing design



Worldstar Winners 2019 -
Sustainability Award / Silver

Sustainability by Design

San Fransisco Bay Coffee

PLA for ring; mesh pod; wood pulp-based lidding material; proprietary

Mother Bag needed since pod is mesh, so compostable bag.



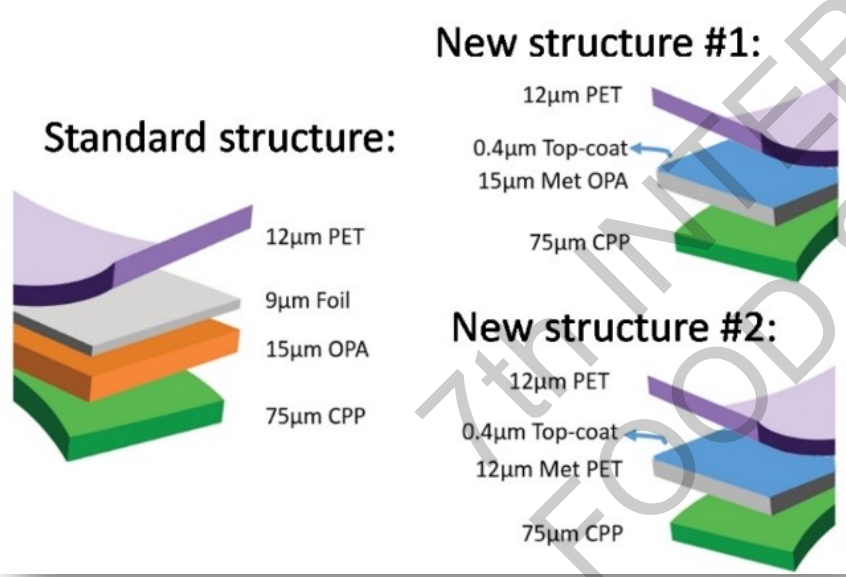
New Plastic Economy & Packaging Industry

- Raw material efficiency & **circular economy**,
- Using less material & renewing design,
- **Packaging from mono materials**
- Biodegradables or Plastics from petrochemicals
- **Environmentally friendly materials meaning increased recycled content**



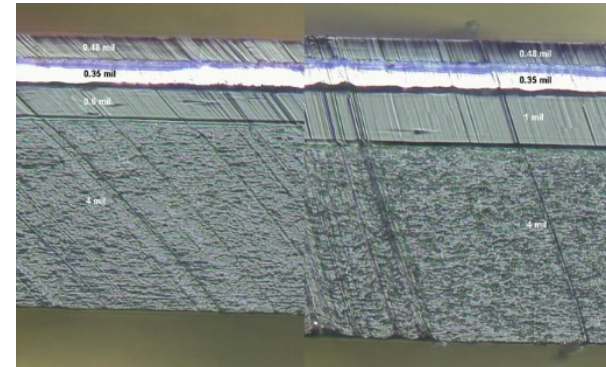
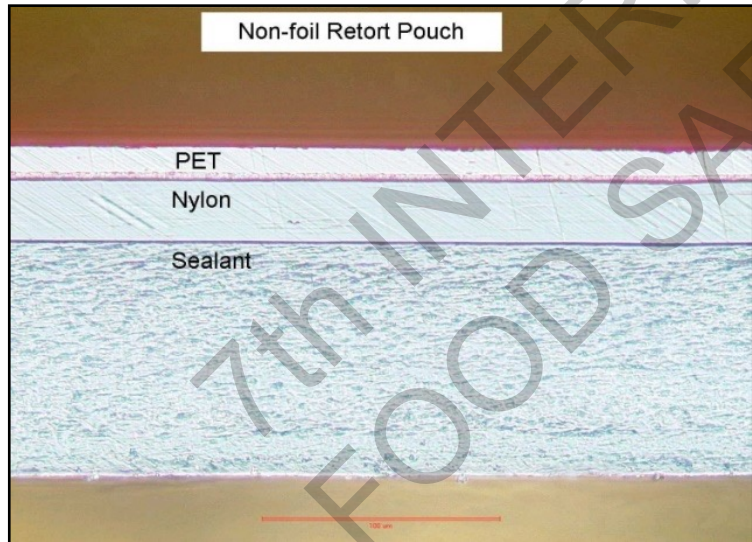
Future Market Growth for Plastics in Packaging

- Retort packaging
- Barrier packaging
- **Mono-materials**
- More recycled content



Future Market Growth - New Retort Pouch Structure

- Original
 - Adhesive Lamination
 - PET/BON/Foil/ CPP
 - PET/BON/ CPP
- Non Foil Barrier Materials
 - SiOx
 - AlOx
 - Besela
 - EVOH



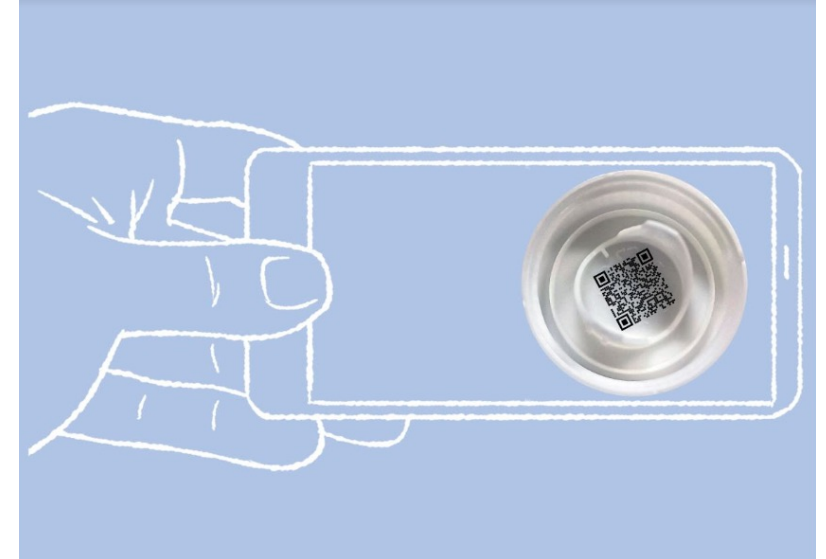
Smart: Active & Intelligent Packaging

- extend shelf-life
- monitor freshness
- display information:
 - quality, safety, convenience



Anti-Counterfeiting

- Authentication through NFC/RFID , Holograms or Codes



Augmented Reality

- HEINZ – Augmented Reality, a new dimension in on-pack communication. Marketing and consumer engagement.



<https://vimeo.com/86397478>

Direct Digital Printing

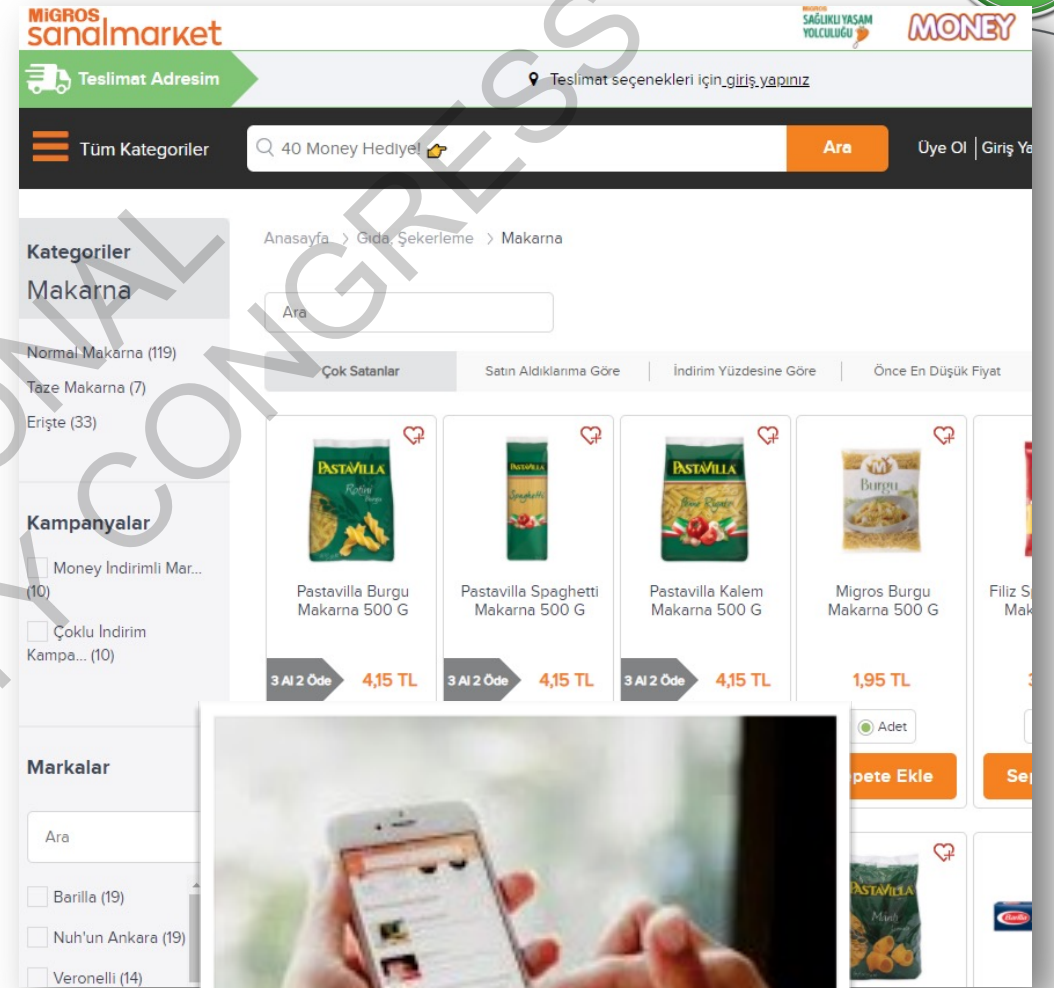


- Direct digital printing on cylindrical rigid containers, metal, PET, HDPE & glass.



Future Market Growth

- Era of online shopping
- Shopping through small screens
 - **Packaging & Logistics**



The e-commerce trend grows worldwide



The challenge - the e-commerce trend grows



Source: World Design Challenge - Sustainable Packaging



Consumer demands an Increase in Life Expectancy



There is no way back from Packaging
Let us redesign and use it Properly!

Thank you

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