

# **Circular Economy – Innovation in Sustainable Food Systems**

Make food safe and available everywhere









## Packaging role, issues and solutions

## It secures food safety and availability

By 2050 the world's population is predicted to reach 9.1 billion, which will require an increase of 70% food availability. Packaging helps keep food safe, nutritious and available.

And, with 33% of food lost or wasted each year, high-performance packaging plays a critical role in today's global food delivery system.

## But it can cause problems for the planet

From greenhouse gas emissions, plastic waste in our environment and expanding landfills to the depletion of finite resources and limited recyclability.

## Or be part of the solution

We believe that a bold, multi-faceted ambition towards increasingly sustainable packaging can help mitigate climate change and address other environmental concerns while feeding a growing population.



## **Our ambition**



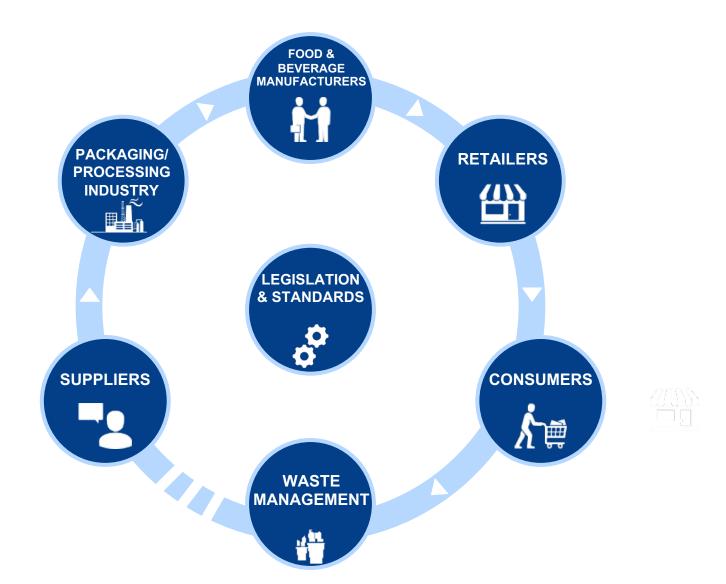
# The world's most sustainable food packaging

The world's most sustainable food package should be made solely from responsibly sourced renewable or recycled materials, fully recyclable and carbon-neutral



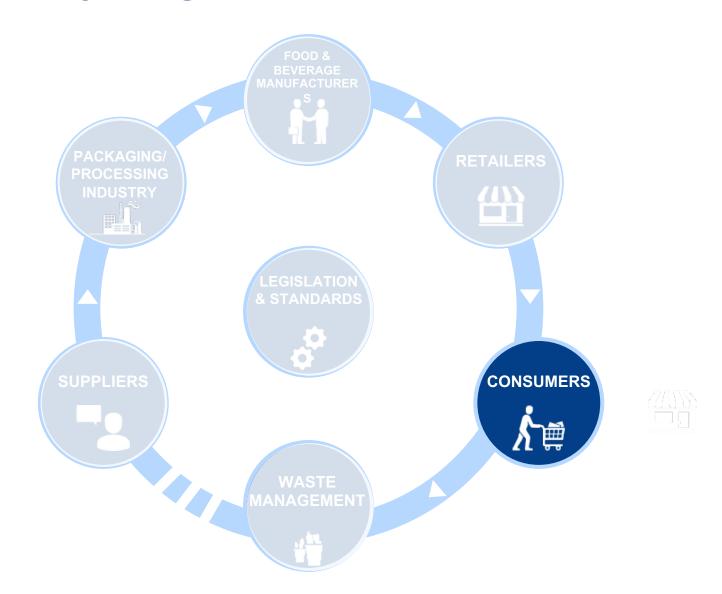


## **Sustainability Insights**





## **Sustainability Insights**

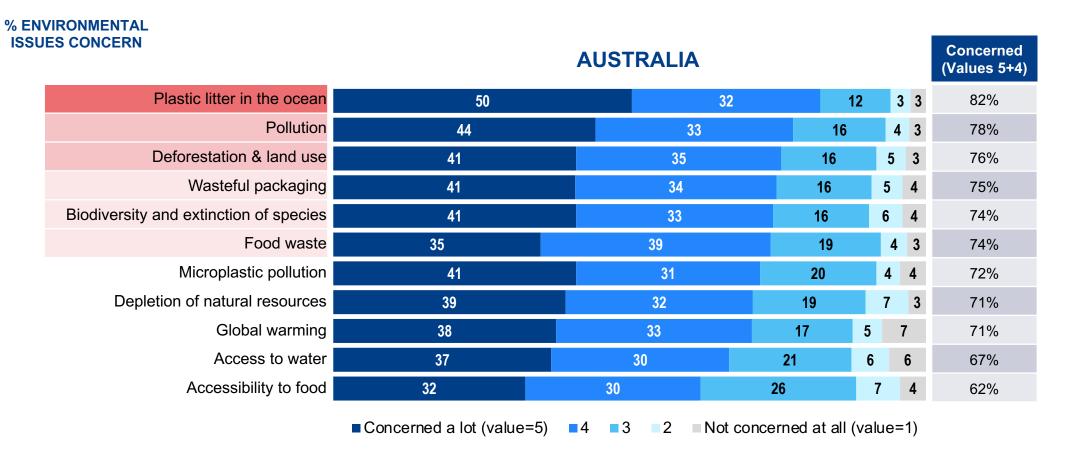




## Concern about environmental issues



Q10. Here below there's a list of environmental issues. For each one, please indicate how much you are concerned about, Percentage values - Base Australia: 500





## Consumers

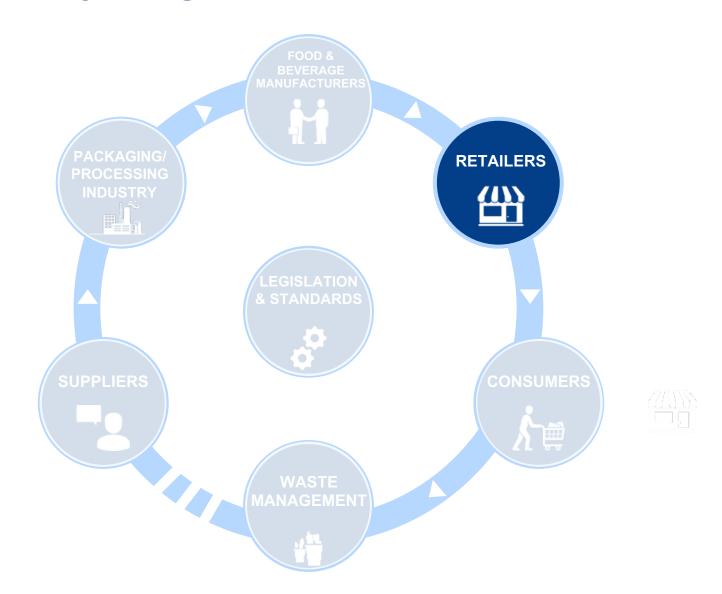
## **Key Insights**

- 1. Consumers, despite the COVID-19 pandemic, are still very concerned about environmental issues and climate change
- 2. Governments, Businesses and Individuals should all do their part to tackle this
- 3. Consumers are willing to re-use and recycle more, consume less but don't agree on paying more to stop climate change
- 4. Consumers have some knowledge gap





## **Sustainability Insights**





## **Local retailers – Woolworths and Coles**



What we are doing and why? Acting together now for generations ahead.





# Strong focus on using renewable energy and reduce food waste



Tesco partners with renewable energy investor, Low Carbon, to create solar farms in the UK as part of its commitment to use 100% renewable electricity by 2030



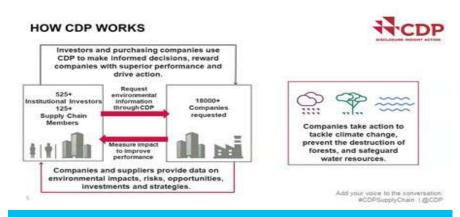
"Each year, one-third of all food produced in the world is lost or wasted, resulting in significant economic, environmental, and food security impacts. This amount equals \$940 billion in economic losses annually. It is responsible for 8% of global greenhouse gas emissions. And while more than 1 billion tons of food is lost or wasted annually, 1 in 9 people is undernourished."

- Champions 12.3's Food Loss & Waste Summit 2019



## Retailers engaging suppliers to suggest way forward

## And to be able to track sustainability progress



World's top retailers collate environmental data on suppliers using CDP supply chain survey

Many top global retailers use CDP's standardized and globally recognized Supply Chain survey to collect data from suppliers that fall within the top 80% of their spend, that helps to track progress against Scope 3 targets, thereby reducing carbon emissions in the supply chain.



X5 Retail Group publish sustainable packaging recommendations to encourage suppliers

X5 Retail Group has developed and **published comprehensive sustainable packaging recommendations** on 13 product categories, including **food, beverage, household and pet care**.



## Retailers introducing sustainability scoring systems

#### To allow consumers to make conscious choices



Colruyt Group pioneers environmental impact scoring of products

To assist consumers in making conscious and sustainable choices, Colruyt has produced an **Eco-Score which is based on the entire life cycle of a product** and adds additional indicators. Customers can consult the Eco-Score of the food products via the Colruyt's SmartWithFood app.



Migros sustainability scale ranking added to product labeling

Swiss retail giant Migros has added a sustainability scale on private-label products to create transparency in the area of sustainability. The feature, embedded on the packaging of products, evaluates animal welfare and climate footprint of products with one to five stars.



## Circular solutions taking ground



Metro France and Loop launch reusable packaging solution for wholesale food

The Loop reusable packaging deposit system will be piloted in 2021 in 10 Metro stores in France. Metro and Loop are currently in talks with suppliers to develop a solution that is specifically tailored to the needs of restaurants. Products will be purchased in reusable packaging, with deposit fee added to the price of the product and refunded as soon as packaging is returned.



Walmart partners IFCO to package fresh produce in reusable plastic containers (RPC)

Walmart suppliers will deliver their produce to Walmart stores exclusively using IFCO RPCs. This contributes to Walmart's Project Gigaton goal to cut 1 gigaton of greenhouse gas emissions from its supply chain by 2030. It is expected to help Walmart to annually avoid ~70,000 metric tons of carbon dioxide **emissions** (= removing over 16,000 cars from roads).

Sustainability Insights 2021 Source: Metro Company website | Walmart news General



## Retailers' efforts towards reducing carbon emissions

Renewable energy & waste reduction

Collaboration with suppliers

Sustainability scoring systems

Circular economy solutions

Partnerships with renewable energy groups

Working together to meet sustainability targets across the supply chain

Labelling systems for shoppers to make informed choices Partnerships with zero waste platforms to close the loop

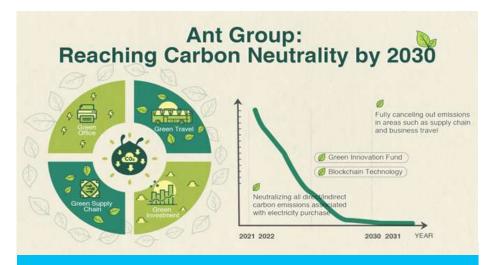
Actions currently adopted by most retailers

Up and coming actions



# China's biggest retailer, Alibaba, leads the path to carbon neutrality





## Alibaba Ant Group pledges to reach "net zero" in carbon output by 2030

Ant Group, the company behind the e-wallet Alipay – has pledged to become carbon neutral by 2030. Its plans include a full assessment of carbon emissions in its supply chain and increasing the use of renewable energy alternatives at its leased data centers to cover 30% of the total power consumption.



Alibaba releases USD \$5bn offering including Sustainability Notes

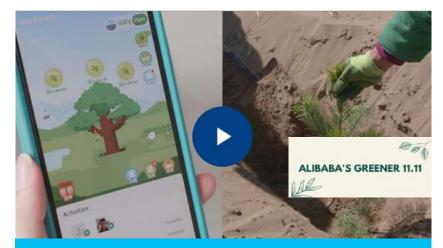
Alibaba has issued 20-year bonds as sustainability notes, meaning the proceeds will be used to fund projects such as building greener offices, installing more energy-efficient data centers, sustainable packaging, investment in renewable energy and designing a circular economy.

Source: Alibaba Alizila News | Alibaba Group website



# Retailers collaborate with brands and consumers to design a circular economy

Promoting waste reduction, recycling events, packaging efficiencies



Alibaba promotes sustainable consumption to consumers by influencing lifestyle habits

During retail festivals such as 11.11 (Single's Day), Alibaba rewards consumers with digital currency when they participate in Alibaba's sustainability initiatives or practise environmentally-conscious lifestyle habits. Using Alibaba's Ant Forest app, > 500 million consumers have tracked and reduced their carbon footprint in daily actions and have used their credits to plant more than 120 million actual trees in China.



In 2020, Jing Dong (JD.com) collaborated with P&G to launch 'Qingliu Day', launched the logistics industry's first environmental protection day together to promote circular economy and public awareness of recycling packages like plastic bottles, reducing carbon emissions by >230,000 tons by reusing and recycling delivery packaging materials and reducing logistics inefficiencies.

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## Retailers

## **Key Insights**

 Retailers' actions and sustainability scoring systems lean towards reducing carbon emissions and packaging, and minimizing food waste

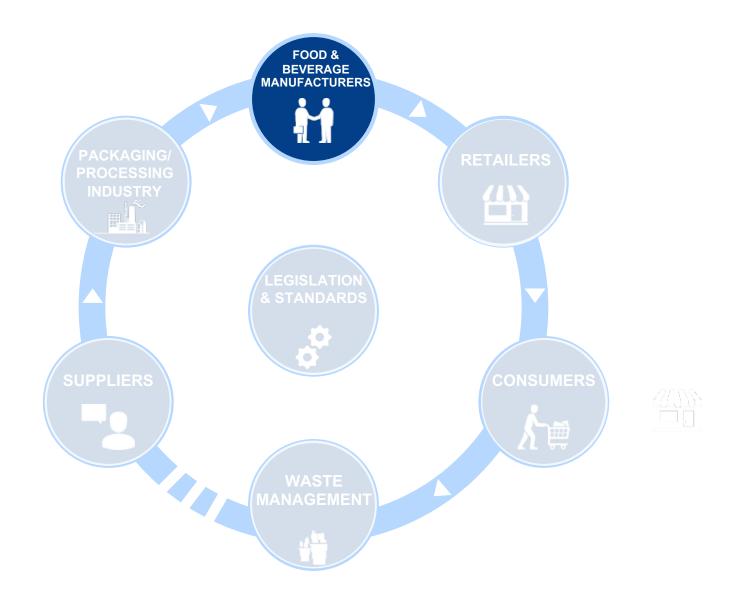
2. Alignment and partnerships with suppliers is essential for retailers to meet sustainability goals and targets

3. Asian retailers are approaching action on sustainability goals from a 360-degree perspective: a structured ecosystem involving governments, suppliers, consumers and leveraging financial assets





## **Sustainability Insights**





## Top F&B manufacturers carbon emissions targets

## Overall target to be 'Carbon net zero' by 2050

	2050 -	Short-Term (2020-2030)	Progress	UN SDG	Science based targets
DANONE ONE PLANET. ONE HEALTH		<ol> <li>2030: 50% reduction in CO2 footprint emission (vs 2015)</li> <li>30% reduction in scope 1 &amp; 2 emissions</li> </ol>	<ol> <li>Reduction in CO2 footprint by 24,8% (baseline 2015 – 15% in 2018)</li> <li>TCO2 footprint reductions in Scope 1 &amp; 2 by 29,1% (baseline 2015)</li> </ol>	<b>~</b>	<b>~</b>
Nestlé		1. Reduction by 100% of GHG emissions in operations (scope 1 & 2)	1. Reduction by 34% of Scope 1 & 2 GHG emissions by tonne of product (baseline 2010)	<b>/</b>	<b>/</b>
Coca Cola	2040 in Europe	1. By 2030: Reduce by 25% absolute GHG emissions scope 1, 2 &3	1. Reduced 24% drink in your hand emissions in 2019	<b>/</b>	<b>~</b>
<b>PEPSICO</b>	Carbon net zero 2040	<ol> <li>2030: Reduce absolute GHG emissions of scope 1 &amp; 2 by at least 75% (vs 20%)</li> <li>2030: Reduce absolute GHG emissions of scope 3 by at least 40% (vs 20%)</li> </ol>	<ol> <li>Scope 1 &amp; 2 GHG emissions reduced by 9% (2019 vs 2015)</li> <li>Scope 3 GHG emissions reduced by 5% (2019 vs 2015)</li> </ol>	<b>~</b>	~
Unilever	Carbon net zero 2039	<ol> <li>2030: carbon positive at manufacturing - Scope 1 &amp; 2</li> <li>GHG emissions reduced by 100%</li> <li>2030: halve GHG impact along product lifecycle</li> </ol>	<ol> <li>GHG impact per consumer increase by +2% since 2010 (mixed effect due to acquisitions)</li> <li>CO2 emissions from factories reduced by 40% from 2010 – target achieved</li> </ol>	<b>~</b>	<b>~</b>

As of August 2020, close to **1,000 companies are setting science-based GHG emission reduction targets** through the Science Based Targets initiative.

Source: Company websites – May 2021

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## GHG Emissions in-scope for 2050 net zero goal

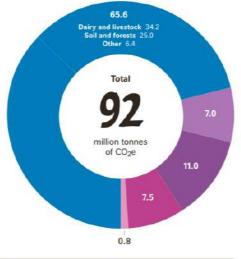
## Packaging & processing have a big contribution in manufacturers' emissions

#### Nestlé's in-scope GHG emissions by operation (92 out of 113)

million tonnes of CO2e, in 2018



Sourcing our ingredie	65.6 ents	71.4%
Scope 1, 2 & 3		
Manufactur our product		7.7%
Scope 3		
Packaging our product	11.0	11.9%
Scope 3		
Managing logistics	7.5	8.2%
Scope 3		
Travel and commuting		0.8%



#### What's not included

As a company at the start of its net zero journey, following SBTi guidelines for now we have excluded the following emissions from our net zero pledge:

Scope 3

Consumer use of sold products
12.7 million tonnes of CO<sub>2</sub>e

Scope 3 Purchased services, leased assets, capital goods, investments 8.6 million tonnes of CO<sub>2</sub>e



Corporate
NET ZERO
TARGET

## ....

#### FARM TO STORE

Scope

(excludes consumer use, but does include end-of-life packaging)

Guided by the Science Based Targets initiative (SBTi)

#### Emissions reduction rules

20% reduction by 2025 50% reduction by 2030

Net zero by 2050

(against a 2018 baseline plus company growth)

Offsetting is not allowed; all remaining emissions must be balanced by insetting.



#### Scope



(includes consumer use and end-of-life packaging)
Guided, among others, by ISO and local regulations

#### **Emissions reduction rules**

A minimum reduction in emissions, with insetting and offsetting allowed for the rest.

Source: Nestlé Company website May 2021

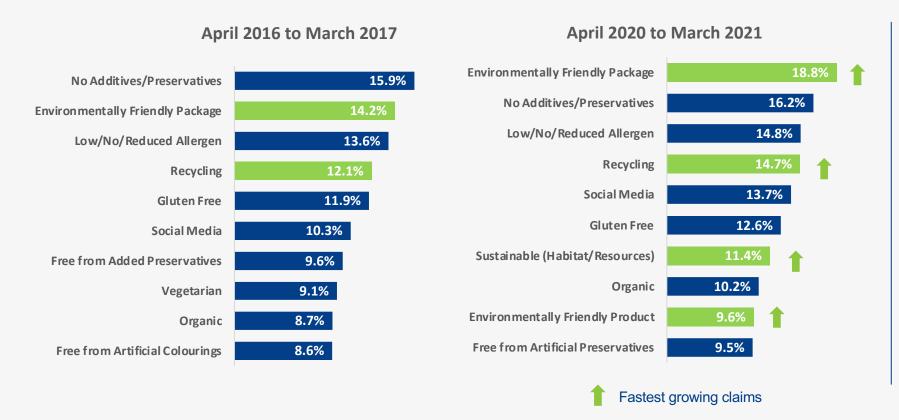
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## A more holistic sustainable approach on the rise

## Environmental claims fastest growing in F&B

#### Top 10 Claims within New Product Launches in Food & Beverage



% of milk making carbon footprint/climate change-related claim, 2015 to 2020\* 3% 1.9% 2% 0.8% 0.9% 1% 0.6% 0.5% 2017 2018 2019 2015 2016 2020 "Within the next two to three years we will get to a point where maybe close to half of the products on shelf make some mention of carbon or climate." CEO Austin Whitman of Climate Neutral - April 2021



## Unilever leads the way for decarbonization



## TIME



#### **APR 27, 2021:**

Unilever recognized as one the

# 100 most influential companies by the TIME for parting with Plastics.

Unilever which admits to having a plastic packaging footprint of 700,000 tons a year, is aiming to undergo "the greatest transformation" in company history: in May, it will bring its climate-transition plan, which includes a goal

of net-zero carbon emissions from all Unilever products by

**2039**—to a vote before shareholders, making it the first FTSE 100 company to do so.

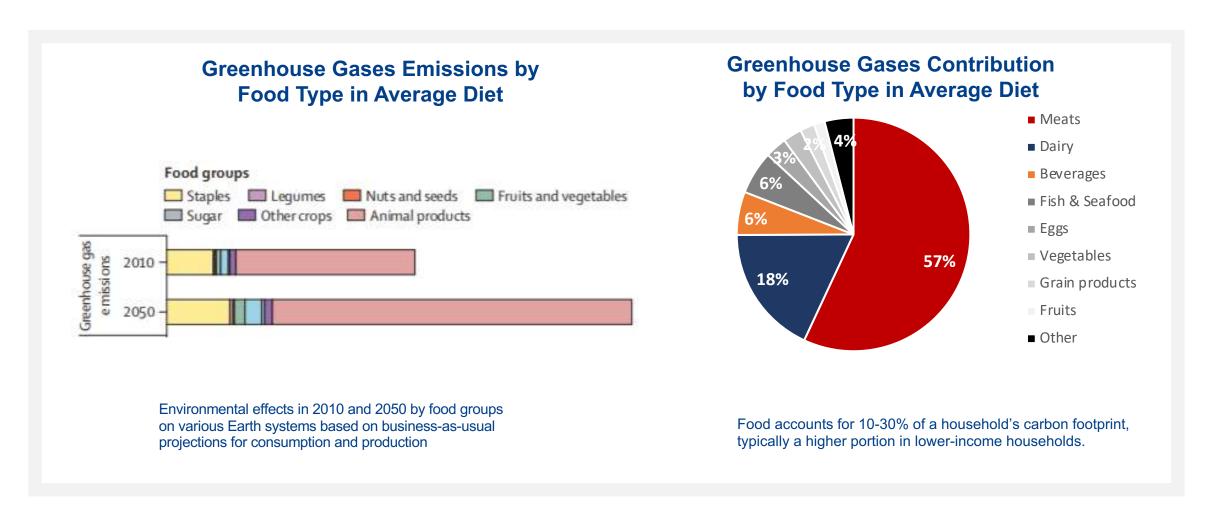
## Unilever decarbonization path for F&B categories

- We're exploring ways to use planet-friendly alternatives
- We're transitioning to planet-friendly packaging
- We are working towardscarbon-neutral production
- We are working to introduce carbon labelling



## Animal products biggest contributor to GHG emissions

Emissions to double by 2050 (from 2010), driven by animal products





## **Carbon Labeling**

## Carbon labels keep gaining importance in F&B landscape



## Carbon labeling at Unilever

Unilever announced they will add carbon labels to all of their 70.000 products

As part of green ambition plan that entails supply chain without deforestation, 1 billion € investments in green projects and completely carbon neutral supply chain by 2039.

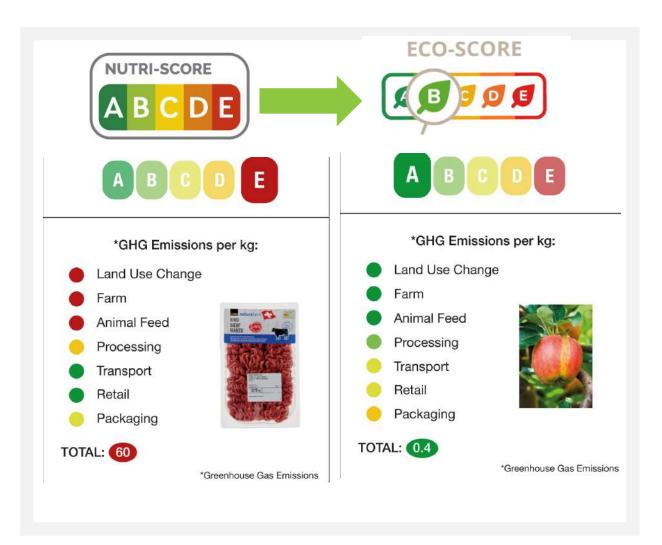


Source: Mintel GNPD April 2016 March 2021



## **Carbon labelling**

## Eco-Score expanding in Europe





Source: www.foodnavigator.com



## New sustainable product developments

## Change in farming practises to reduce carbon footprint

#### **SCIENTISTS' EXPERIMENTS WITH ALGAE**

Scientists are experimenting with new cow's feed made of algae to help reduce methane emissions.

A new method in which farmers feed seaweed to cows, indicates **methane levels can be reduced by 98%.** The largest agriculture greenhouse gas (GHG) contribution is from cattle and sheep production systems that are responsible for up to <u>18%</u> of total global GHG emissions, mainly in the form of enteric methane.



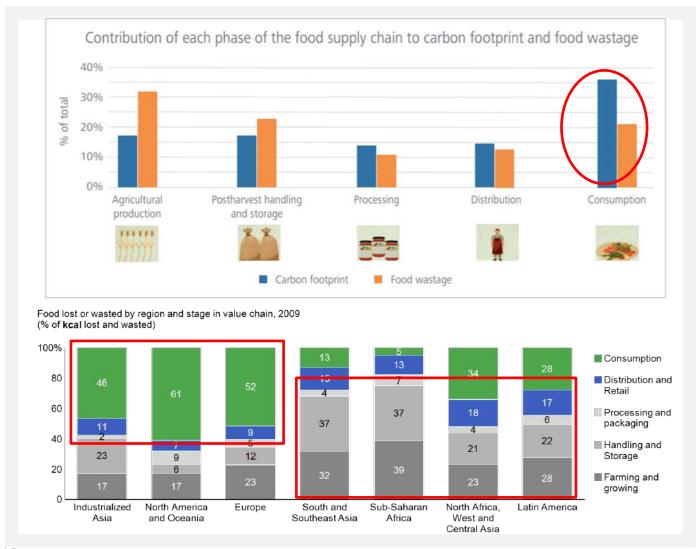






## Food waste remains the biggest contributor to GHG in F&B

## One-third of food produced globally is either lost or wasted



#### Food waste & F&B manufacturers

Importance of F&B manufacturers as key front role to reduce carbon footprint via food waste reduction

- 1. In developed countries: focus on consumption and post-consumption, with high accumulation of carbon
- 2. In developing economies, focus in improving efficiency downstream the value chain

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## **F&B Manufacturers**

## **Key Insights**

- 1. More ambitious carbon reduction targets for F&B manufacturers globally
- 2. Carbon footprint claims expected to surge in coming years as a more holistic sustainability approach is on the rise in F&B products landscape
- 3. On top of reducing packaging impact, manufacturers continue on their route to reducing GHG emissions by:
  - Diversifying product portfolio to lower carbon emissions categories –
     e.g. Plant-based alternatives
  - Develop new animal farming practises
  - Reducing food waste and raise consumer awareness





**Sustainability at Tetra Pak** 





## Our value chain emissions (2020)

## Raw materials and transportation



Purchased materials for packaging & transportation Scope 3 of the GHG Protocol

### Impact of sold equipment

Use of sold products – life-time impact Processing equipment Packaging equipment Scope 3 of the GHG Protocol



41%

3%

49%

7%

### Tetra Pak operations

Production sites, offices & business travel Scope 1, 2, 3 of the GHG Protocol



### Waste

Post-consumer cartons not recycled or recovered for energy Scope 3 of the GHG Protocol





# 2020 climate goal exceeded One step towards net zero emissions

Exceeded our 2020 climate goal, decoupling economic growth from greenhouse gas (GHG) emissions across the full value chain, scope 1, 2, 3 with a

total reduction of -19% versus 2010.

Realised an outstanding

-70% GHG reduction in our own operations in 10 years, scope 1 and 2.



Next challenging ambition:

net zero emissions across the value chain by 2050,

supported by an intermediate

2030 target of net zero carbon emissions across our own operations,

and

-46% reduction across scopes 1, 2 and 3



# How are we doing it – achieving net zero Focus areas

- Partnering with suppliers and other stakeholders along the value chain to significantly reduce carbon footprint
- 4 Looking for naturebased solutions for storing carbon, such as reforestation programs, bringing environmental and social benefits
- 2 Lowering energyrelated emissions through energy conservation, energy efficiency, and purchasing renewable energy
- Developing sustainable recycling value chains, by collaborating

Helping customers reduce energy consumption and food loss

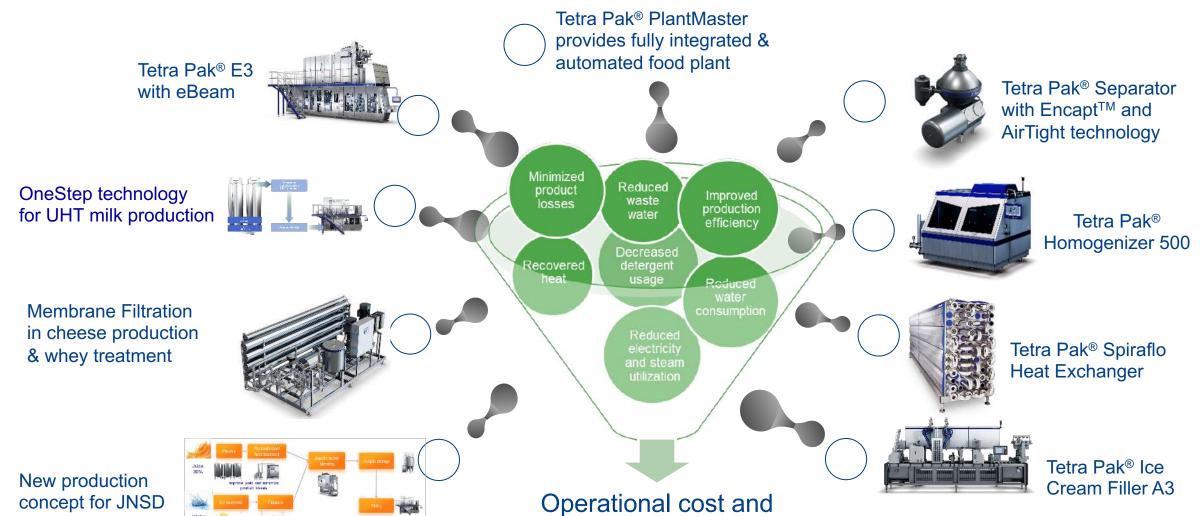
BPL Performance 2030





## **Environmentally sound equipment & solutions**





environmental savings

/ 33



## **Digitilisation & Automation**



Sustained manufacturing capacity investments



Unrealised automation potential in existing production



Increased industry4.0 transition



Increased focus on sustainability



## In a nutshell...

OPTIMISE OPERATIONS

Providing improved customer competitiveness and securing reliable delivery

#### **INCREASE ASSET UTILISATION**



Machine losses



Material losses



Management losses

#### **REDUCE TRASNFORMATION COST**



Enable growth



Proven reduction of cost



Proven improvement in quality



## Water risks for Tetra Pak's own operations

Presence in many water-strained areas e.g., China, India, Mexico, Pakistan

#### Lahore, Pakistan

~99'000 m³ water p.a. Extremely high water risk

#### Mexicali, Mexico

~101'000 m<sup>3</sup> water p.a. High water risk

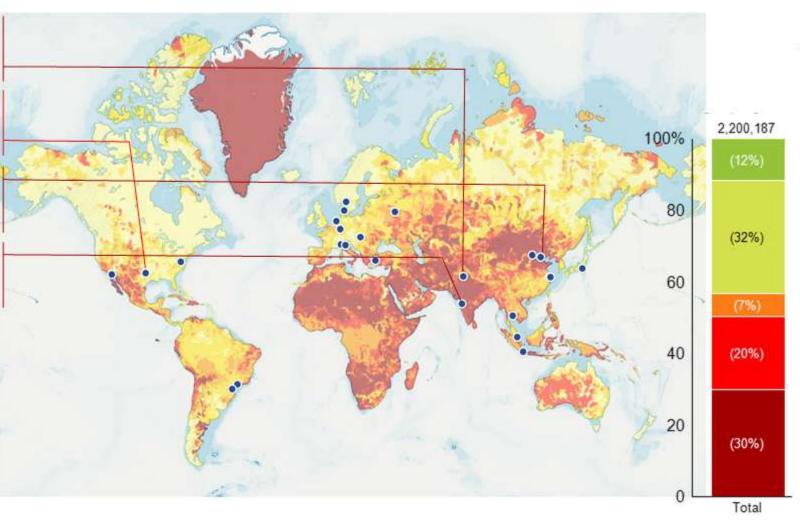
#### Beijing, China

~108'000 m³ water p.a. Extremely high water risk

#### Chakan, India

~155'000 m<sup>3</sup> water p.a. Extremely high water risk

- Source: WRI
   Aqueduct Water
   Risk Atlas
- All Tetra Pak production sites have been mapped



#### Key insights

>50% of water use from high or extremely-high risk areas (22% of sites located in these areas)

The largest ten sites are responsible for 89% of total water withdrawal



# The **Araucaria**



Pioneering initiative to develop an **environmental restoration model** for the Forest of Araucarias in the southern Atlantic Forest, Brazil

### Restoration

# 7 thousand hectares

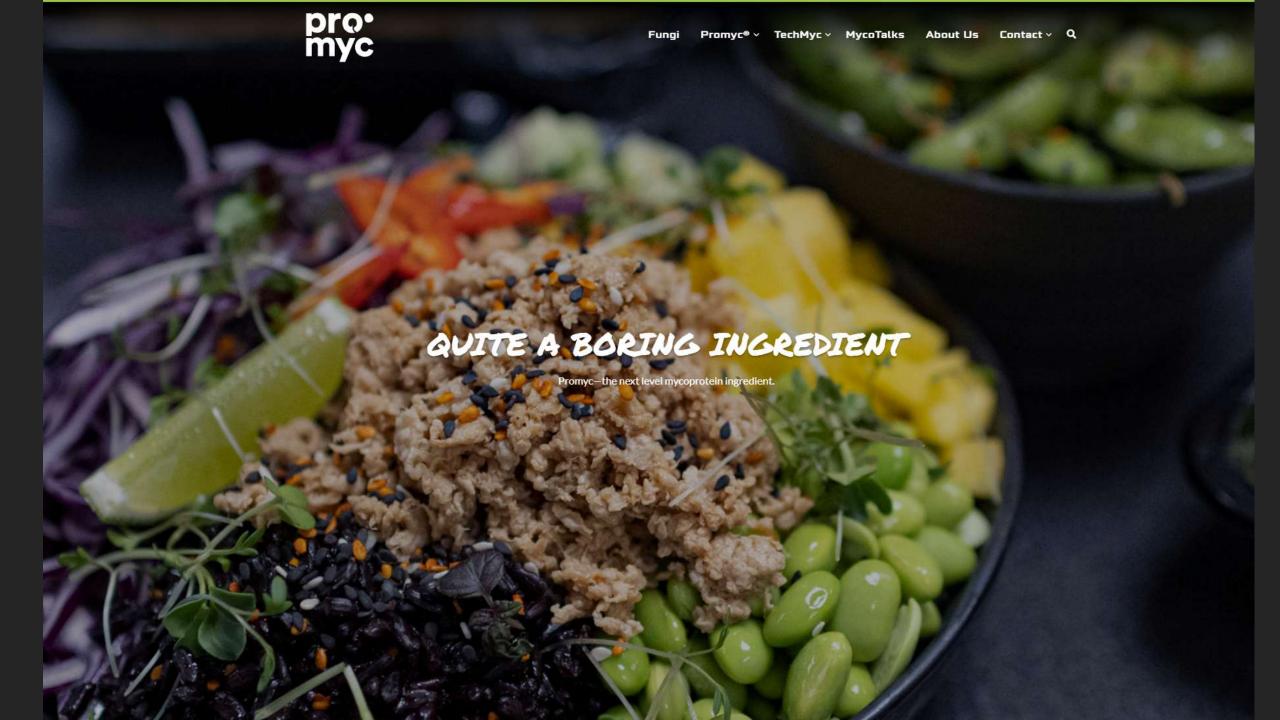
of degraded areas over 10 years in the states of Santa Catarina and Paraná

#### Certification

13.7 million hectares

Certified benefits for climate, community, and biodiversity through internationally recognised Verra standards







## PERFECT

## We're rethinking everyt Starting with food.



product. In fact, it has received <u>Generally</u> Recognized as Safe (GRAS) status.

## Why protein from flora?

Our animal-free milk from flora is the first of its kind, using whey protein <u>made by microflora</u>, not cows, to make dairy that's identical to traditional milk. Yes, we said identical.



Real dairy that's 100% animal-free



Tastes, scoops, and spreads the same





Cholesterol-free



Generally Recognized as Safe (GRAS) status



### brand in food service.

Villa Dolce meets their need for sustainable animal-free products without compromising the taste and texture they are known for.



### **Our ambition**



## The world's most sustainable food packaging

The world's most sustainable food package should be made solely from responsibly sourced renewable or recycled materials, fully recyclable and carbon-neutral



# Packaging made from responsibly sourced renewable or recycled materials

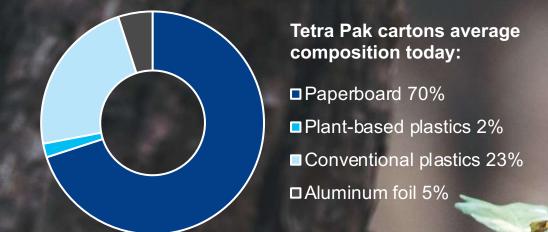






## Our goal: increasing renewable and recycled content

Continuously increase the use of polymers with renewable or recycled content targeting 20% (by weight of sourced volumes) worldwide by 2025



### Why it is important

By using renewable materials, we can minimise the need for fossil-based materials, which have a significant environmental footprint. And by sourcing them responsibly we can help protect biodiversity and natural environments.

By incorporating recycled content, we close the loop and contribute to a low-carbon circular economy.



## How we do it: renewable content

Increasing share of paper

Increasing the use of plant-based plastics, replacing fossil-based virgin plastics (caps, straws, laminate)

Developing barrier technology to reduce/remove aluminium foil barrier, aiming to launch a fully renewable aseptic package by 2023



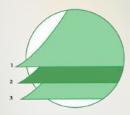






### Tetra Rex® Plant-based

### Fully renewable



Cap: Sugarcane-based plastic

- 1. Internal layer made from polymers derived from sugarcane
- 2. Paperboard
- 3. External layer made from polymers derived from sugarcane.

As the world's first fully renewable carton package, this solution for chilled products is a symbol of freshness and safety.

- · Made solely from a combination of paperboard and sugarcane-based plastics
- The layers and cap are made of sugarcane-based plastic, reducing the use of fossilbased materials
- This beverage carton is eligible to carry the Bonsucro on-pack label which certifies the responsible sourcing of sugarcane. It also features FSC™ on-pack label certifying that the paperboard comes from well managed forests and other controlled sources¹.





The first in our industry to have our packages FSC™-certified

Two main principles

- 1. Certified, responsible forest management
- 2. Certified chain of custody



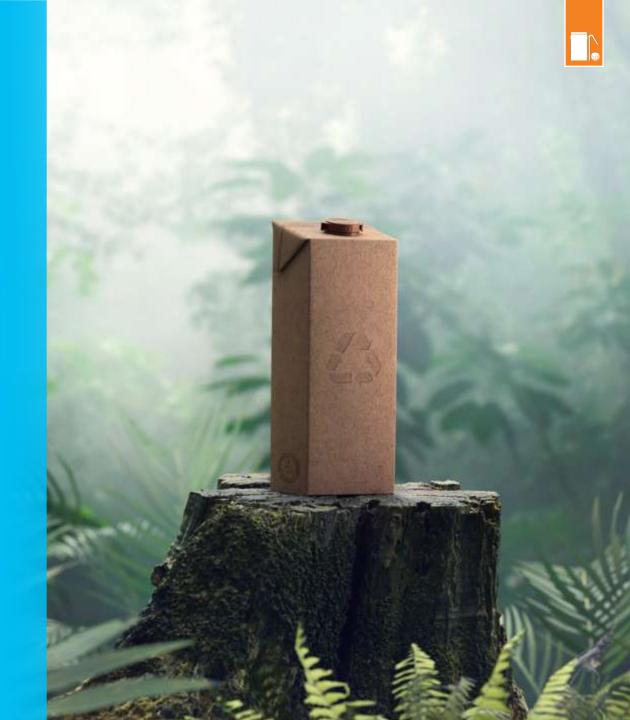


## How we do it: recycled content

Closing the loop while maintaining food safety:

Incorporating polymers with attributed recycled content into our packages

Exploring the potential for incorporating recycled fibres from carton packaging into our paperboard







Carton packages integrating attributed recycled polymers are now available.

Benefits: minimising dependency on fossil-based resources; responsibly sourcing raw materials; designing packages for enhanced recycling and reduced litter; and building partnerships to develop effective collection and recycling infrastructure worldwide.









We developed a protective film for use as secondary packaging with post-consumer recycled plastic.

The film is recyclable and offers excellent performance and appearance. It is now available to customers and has already been deployed across Europe.





## Low carbon footprint packaging





## Packaging with a low carbon footprint

### Efficient transportation = lower carbon footprint

Tetra Pak invented the world's first aseptic process and packaging, which enables food & beverages to be stored without refrigeration. Not only does aseptic packaging extend shelf life, but it also enables products to be transported & stored without refrigeration, with a lower carbon footprint, as well as ensuring that food products are less likely to be wasted.

#### **Less waste = less GHG emissions**

Food waste accounts for approximately 8% of total global GHG emissions\*. Our innovative technologies focus on delivering low-waste processes and packaging that prolong the life of food and keep it from spoiling or perishing. This ensures food availability while helping to solve the food waste problem.

More renewable materials = less Co<sub>2</sub> emissions

Fully renewable package - 35% CO<sub>2</sub> reduction vs. fossil-based package\*\*

### Why is it important?

Climate change is affecting our weather systems, our ecosystems and our food systems.

Mitigating climate change requires a multi-faceted approach. Today, global companies are challenged to measure and control their emissions and the impact of their products across the value chain.

\*UN FAO, Food wastage footprint & climate change

\*\*http://www.braskem.com.br/Portal/Principal/Arquivos/Download/Upload/Enviro%20assessment%20summary%20report%20final 148.pdf



## What we offer: Carbon Trust carbon neutral label



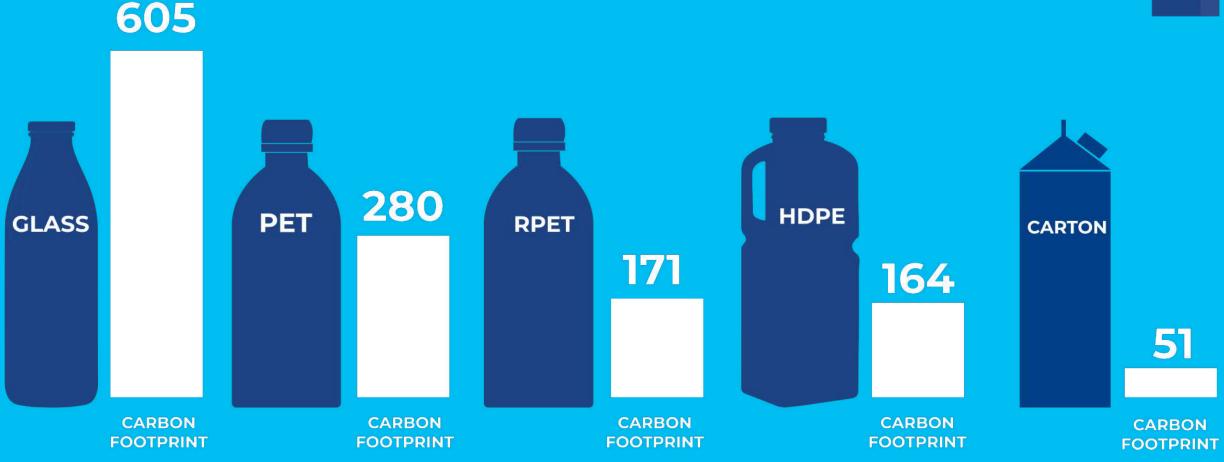
Our Tetra Rex® Plant-based packaging has been certified as carbon neutral, in accordance with the internationally recognised PAS 2060 standard by the Carbon Trust.

With that, we became the first packaging company to offer customers the opportunity to use the Carbon Trust carbon neutral label\*.



## THE CLIMATE IMPACT FROM BEVERAGE CARTONS IS LOWER THAN OTHER MATERIALS





Source: 'LCA of Beverage and Food Packaging in Australia and New Zealand,' 9 September 2020; thinkstep Ltd Climate impact in g CO2e/per package 1L Fresh Milk



80 - 90%

OVER 99% OF PACKAGING IMPACT TO CLIMATE CHANGE HAS OCCURRED BEFORE IT HITS THE SHELF

5 - 10%



1%











## **Developing local recycling solutions**



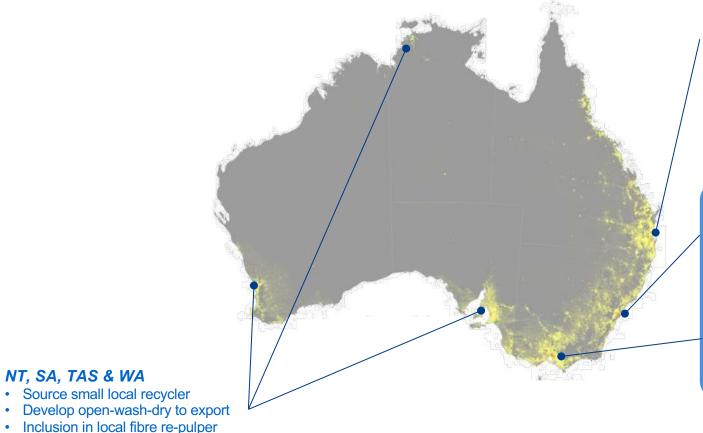








### NSW on-track for Q4 2022 – and plans to expand



#### Stage 2 QLD

- Expected 2023
- saveBOARD funding proposal with QLD govt.
- Support MRFs to sort cartons

#### Stage 1 NSW

- saveBOARD equipment ordered, on-track for Q4 2022
- Already in kerbside collections
- Support MRFs to sort cartons

#### Stage 3 VIC

- Expected 2024
- Support kerbside standardization to incl. cartons
- Support MRFs to sort cartons



funded by WA govt

Source small local recycler

NT, SA, TAS & WA