Can Food Systems Enable Sustainable and Resilient Food Value Chain for Tomorrow?

Reducing Food Loss and Waste

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Tetra Pak®
PROTECTS WHAT'S GOOD

A world leader in food processing & packaging solutions

Pioneering integrated solutions for over 70 years

52* Production plants

27 Market companies

87 Sales offices

6 Customer innovation centres

8 Technical training centres

6 Research & Development centres

23,733 employees

12.495 € billion net sales in 2022

> 160 Countries in which Tetra Pak had sales in 2022

193 billion Tetra Pak® packages sold in 2022

Collaborating with **~ 200** recycling facilities

DELIVERED IN 2022

206 Filling machines

2,665 Processing units

671 Downstream equipment

IN OPERATION

103,322 Processing units in operation

22,757 Downstream equipment

8,959 Packaging machines

1.2 million tonnes of carton packages collected and sent for recycling

An unsustainable food system in need of transformation

The Food System as built today is unsustainable…

1/3

of generated green house gas emissions

1/3

of food is wasted

1/3

are overweight

>800 mio

are chronically undernourished

while by 2050 we will need...

56%

more food

to feed

10 bn

people

without using more land

~50%

of the world's vegetated land is used for agriculture

to lower emissions drastically

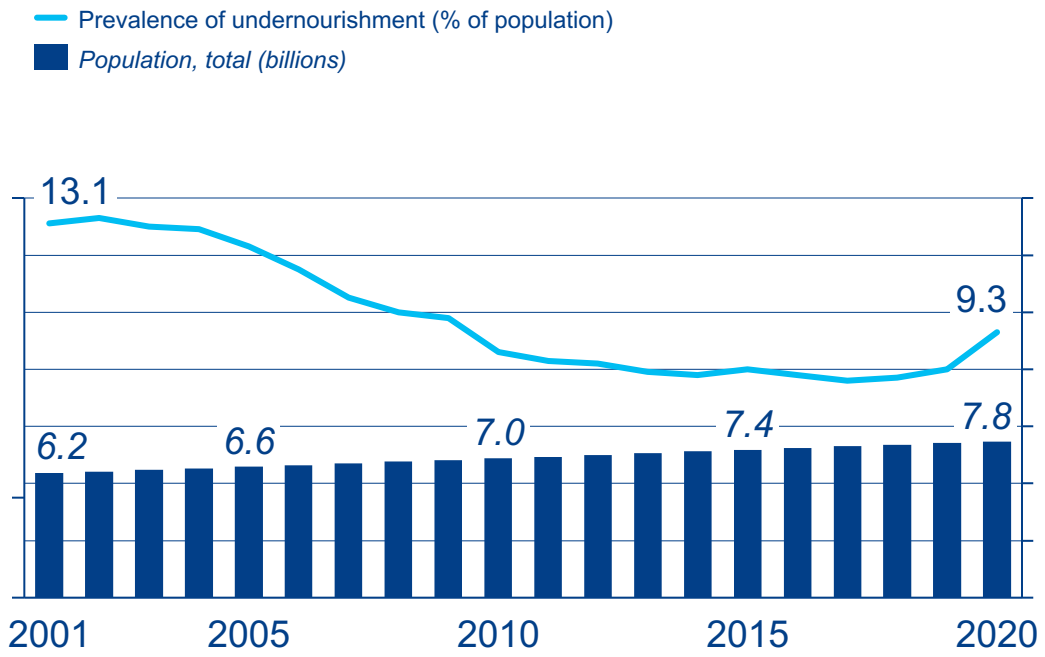
50% to 80%

of emissions increase if status quo is maintained

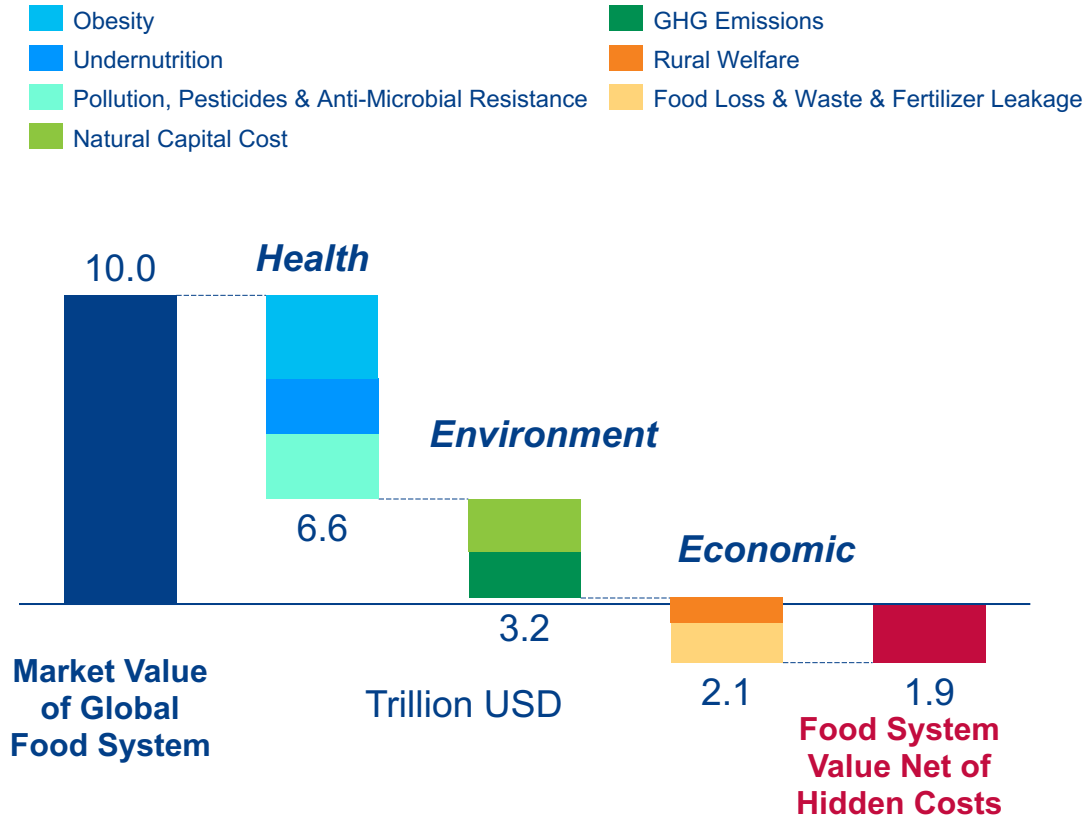
Source : IPCC / WHO / FAO

Food systems today feed 90% of the world's population but generate very material 'hidden costs'

Over the last decades, the global food system has achieved great progress in food security…



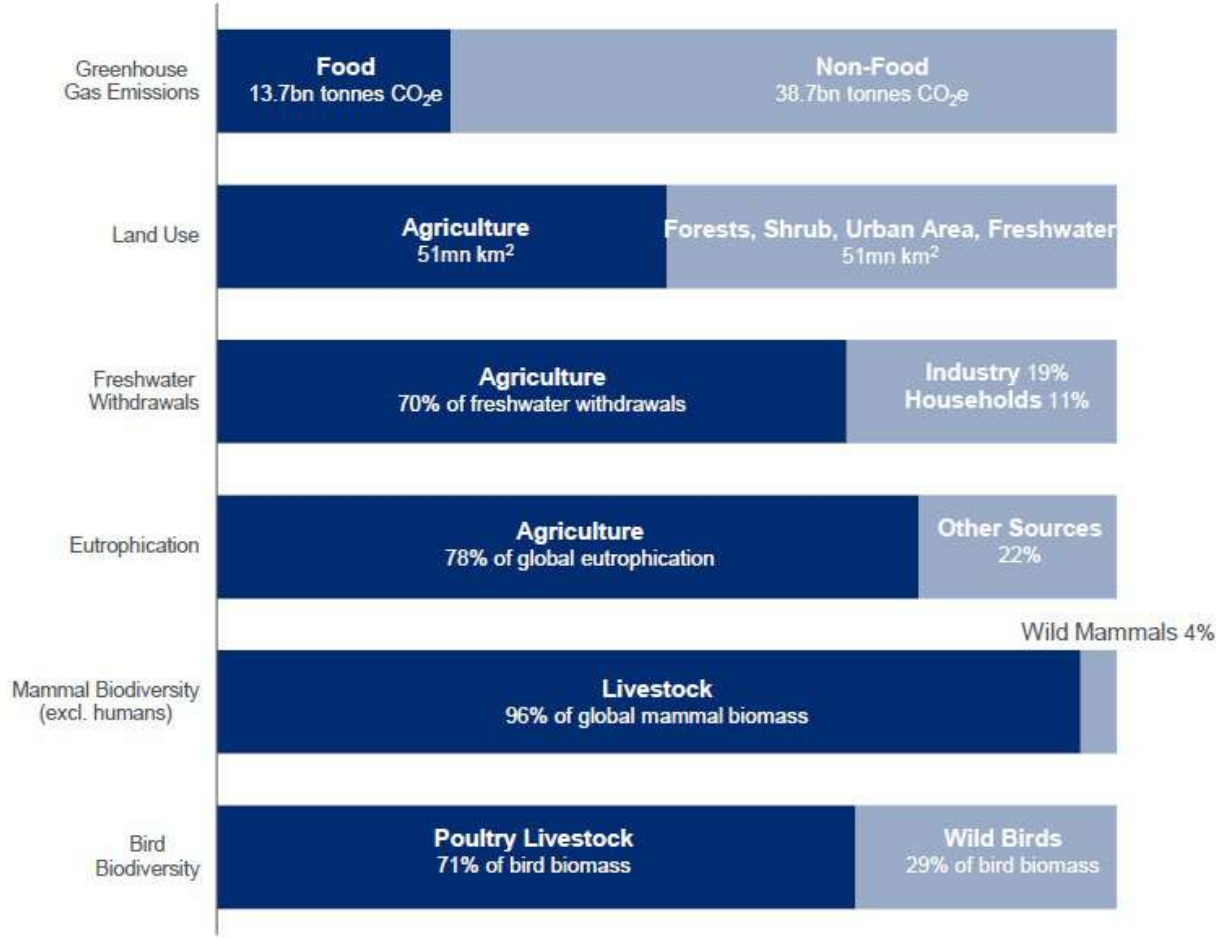
…while generating large health, environmental, and economic 'hidden costs' that in turn compromise its resilience



Source: World Bank; FOLU, Growing Better Report

Food systems estimated to be the second most critical pathway to addressing climate change behind energy

The Environmental Impacts of Food and Agriculture



26%
of greenhouse gas emissions come from food

50%
of the world's habitable land is used for agriculture

70%
of global freshwater withdrawals used for agriculture

78%
of global ocean and freshwater pollution

96%
of global mammal biomass is livestock

71%
of global bird biomass is poultry livestock

Source: Poore & Nemecek (2018); UN FAO; UN AQUASTAT; Bar-On et al. (2018); OurWorldinData.org.

Recognition that an urgent shift in global food systems is needed

UN Food Systems Summit +2 Stocktaking Moment

- **24-26 July 2023 in Rome**

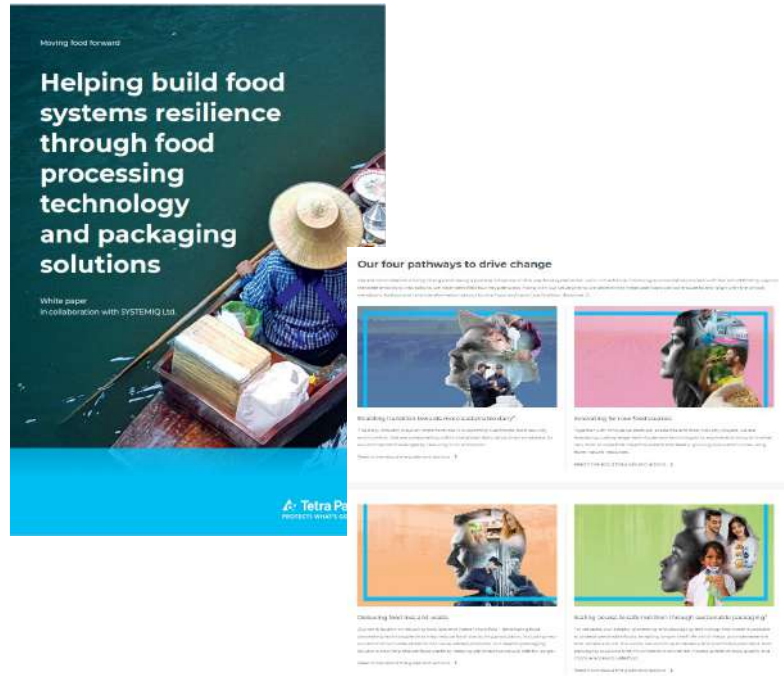
  Countries convene to review progress on the 2021 UN Food Systems Summit commitments

- Follow-up to the 2021 Summit where **Heads of State and Government from 193 countries committed to accelerate and deepen the transformative power of food systems**.
- Building momentum for implementation of national food system transformation pathways
- **101 Voluntary Country Reports** submitted

Integration of food systems in COP28 agenda

- The COP28 will include a dedicated **Food Day** (10 December)
- Events include:
  - Implementing the Emirates declaration on resilient food systems
  - Building water-resilient food systems
  - Launch of the UNFCCC technical working group on water-resilient food systems
  - Best country practices on climate-food nexus
  - Launch of the climate-food guidance toolkit

What is Tetra Pak doing?



- 4 Pathways to drive change
- Food systems transformation ambitions
- Upcoming scenario white paper on how global food systems can drive ecological and social well-being on our planet by 2040

Enabling food systems transition through 4 Pathways to drive change

Impact Areas	Value Proposition
Enable transition towards more sustainable dairy	Offer best-in class solutions to enable dairy sector to maximize efficiency and reduce the environmental footprint (energy, water, emissions) of their operations.
Innovate for New Food sources	Deliver solutions in support of the planetary health diet, expanding presence in under-represented but needed food categories (e.g., vegetables, fruits, wholegrains)
Reduce food loss and waste	Leverage the potential of our food processing and packaging solutions to reduce FLW by providing higher solutions efficiency, longer food shelf-life, traceability, and more circular supply chains
Scale access to safe nutrition through sustainable packaging	Leverage aseptic packaging technology and associated innovation as a solution to improve food access and food safety for undernourished people and locations with high costs from food unsafety

Food loss and food waste

SDG 12.3 target to halve per capita food waste at the retail and consumer level by 2030

One third
of all food is lost or waste globally
(UNSDG 12)

If food loss and waste were its own country, it would be the **world's third largest greenhouse gas emitter**
(FAO, 2021)

1.3 bn tonnes
of food was wasted in 2019, worth **$1 trillion**
(UNSDG 12)

14% of food valued at an estimated **$400 bn** is lost from harvest up to, but not including retail
(FAO, 2019)

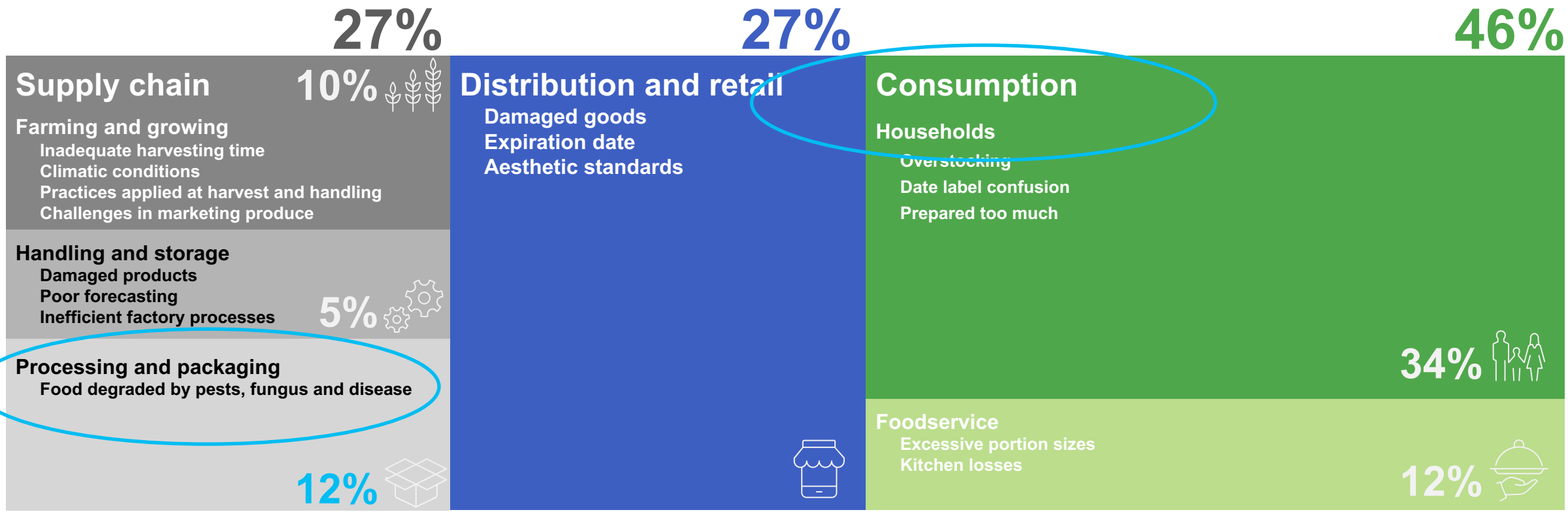
- The Australian economy **loses $36.6 billion per year** due to food waste (70% edible)
- Food waste accounts for about **10%** of Australia's **annual GHG** emissions
- **Households** generate the most food waste, about **30%** of the **total.** In addition **3.2m tonnes** of food goes to waste before making it to retain shelves

Sources: FAO Food Waste Index Report 2021, FAO Policy Support: Food Loss and Food Waste, UNSDG Goal 12

Food loss/waste occurs throughout the food value chain

Tetra Pak solutions focus on processing and packaging

~ food wasted globally



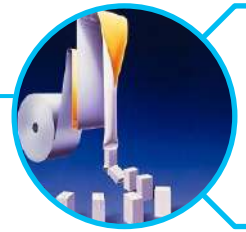
Source: FAO data '00-'17 median, WRI, Bain analysis

Role of Food Processing and Packaging to Reduce FLW

Efficient Processing

Optimizing Packaging Equipment

Advanced Technologies



Aseptic packaging extends the **shelf life** of the products, while **protecting** food **without** the need for **preservatives, additives or refrigeration**

Aseptic packaging can **contribute to food security** in times of **disrupted supply chains**

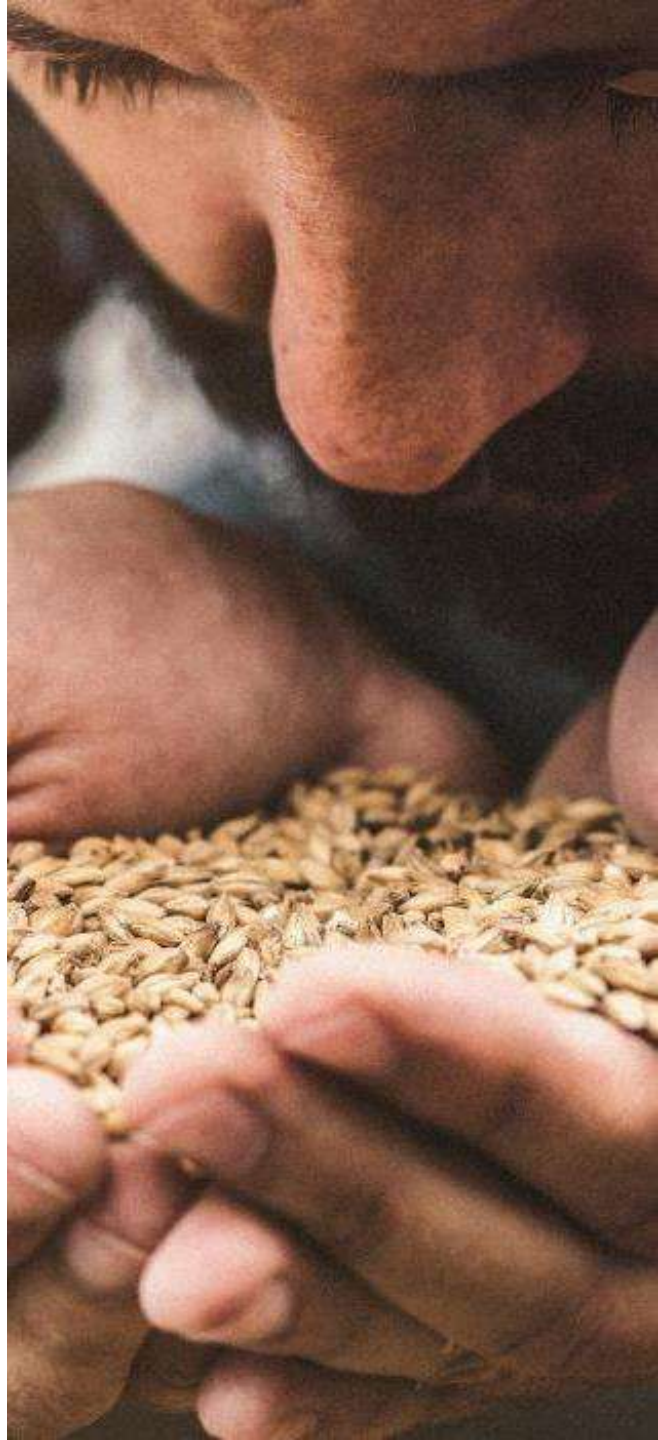
A **diverse portfolio range** of packaging sizes and closures can help consumers to manage consumption and **reduce waste**

Transforming by-products into valuable ingredients

Smart enzymes and brewers' spent grain

- Exploring opportunities with Swedish start-up EnginZyme to expand the applicability of enzymes in food production by-products
  - E.g., converting large volumes of acid whey produced from fresh cheese into added value ingredients such as fibre
- Finding new ways of making Brewer's Spent Grain (BSG), a side stream from the brewing industry, safe and available for human nutrition
  - Our highly efficient patented sterilisation process, heat treats BSG for longer preservation enabling it to be used as ingredient for plant-based beverages, bread, etc.

Reduce food loss and waste



Leveraging technology for resource optimisation

Whole soya bean

- Developed unique processing method for soya drinks, utilizing the whole soya bean in production
  - Optimising resources, reducing waste, improved nutritional content; paving way for new products using same method
  - Eliminates okara as a by-product therefore reducing water waste
  - Existing lines can be upgraded to integrate the new technology

Reduce food loss and waste

Policy Framework to catalyse FLW reduction

Measure food loss and waste across the food supply chain to enable prevention: As effective action requires data, food loss and waste measurement would provide better insight into where food loss and waste is occurring and enable target setting.

Support innovative solutions through appropriate policy and financial frameworks, such as encouraging and incentivising the development and adoption of new technologies that help combat food loss and waste as well as supporting R&D efforts.

Legally binding national food loss and waste prevention targets in NDCs to pave the way for concrete action and make the critical link between food loss and waste and climate objectives.

Foster education and awareness-raising initiatives on food loss and waste prevention for all actors in the food supply chain, including consumers.

Key take-aways

- No climate plan is complete without including the role of food systems
- Regenerative and circular value chains to reach resilient food supply


THANK
YOU

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