A Successful Model to fight Food Waste
Experiences from EU FUSIONS and REFRESH

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Wien, 14 May 2018

austria glasrecycling

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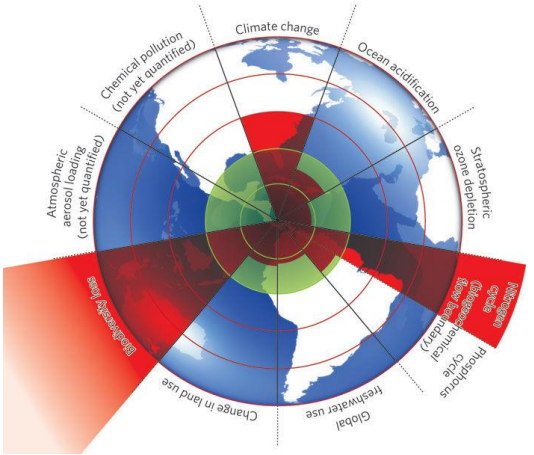
Drivers for change



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Towards a circular economy in food

- Catalyse and accelerate the **Transition** in the Netherlands, Europe and globally towards a **Circular Food System**.
- Activities are focussed on **Prevention** (design) and **Reduction** (innovation) of **Food Waste**. And the highest possible **Utilisation** of (unavoidable) food waste and side streams.
- By organising and developing frameworks for action, **Business case** development, create proof of concepts, develop impactful **Solutions**, deliver actions and monitor **Progress**.

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Ambitions

- Ambition **SDG 12.3**: towards 50% reduction of food loss & waste in 2030. Indicator: reduction of food loss and waste (kg) across the food supply chain.
- Contribute to the reduction and mitigation of **Greenhouse Gas emissions** (climate change, Paris Agreement) and other environmental impacts (water, land use, biodiversity).
- Increased **food security** (in emerging/developing countries) by reducing post-harvest losses, better food for more people (access to food).

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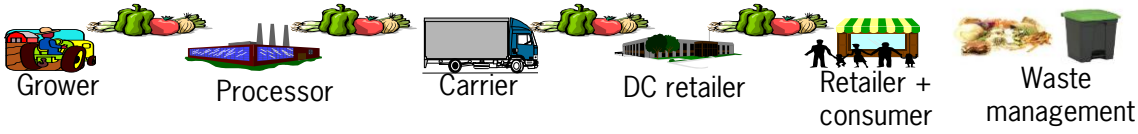
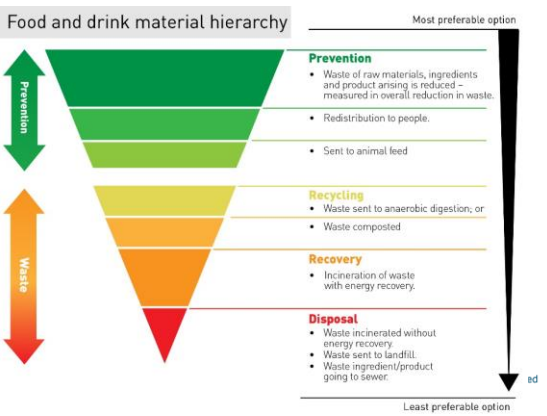
Circular economy & value chains/networks





FUSIONS & REFRESH

Anti food waste movement

The Guardian

Nearly half of all fresh potatoes thrown away daily by UK households

Figures show nearly 6 million potatoes a day are wasted, at a cost of £230m a year

Nearly half of the edible fresh potatoes bought by UK householders each day are thrown away - 5.8 million of them per day, and at a "staggering" annual cost of £230m, figures show.

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Food waste – latest estimate EU-28

EU-28 PRODUCES

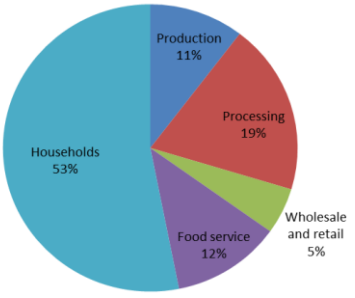
FUSIONS

88 MILLION TONNES of food waste per year

amounting to an estimated 143 BILLION EUROS

For more information on data and quantification, access the March 2016 FUSIONS reports "**Estimates of European Food Waste**" & "**Food Waste Quantification Manual to monitor Food Waste Amounts and Progression**"

- Equivalent of **20%** of all produced food in EU
- **143** billion euros
- **~ 304 Mt CO2 eq** (6% of total emissions of GHG in EU28%)



173 kg pro-capita food waste

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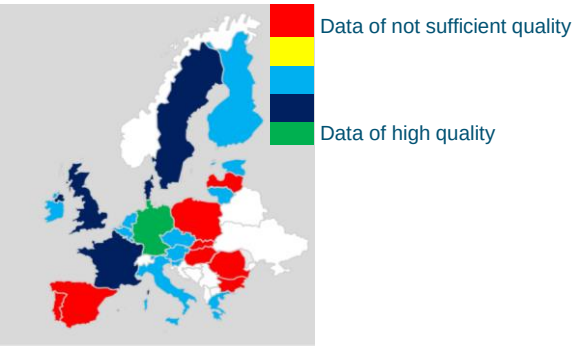
European policy Arena; What's happening

Policy Commitments: SDG12.3, Circular Economy Package

- Monitoring of food waste at MS level

  Building on EU-FUSIONS, Eurostat and FLW protocol

- An EU platform food loss & food waste (public/private)



European policy Arena; What's happening

- Harmonisation of food donation guidelines
- Date labelling (study private sector practices, review terminology, annex products with no expiration date)
- Support former foodstuffs utilisation as animal feed
- European Court of Auditors report

European policy Arena, Member States actions

Collaborative models with Multiple Approaches (& mixed models)

- Enforced by legislation
  - France (law to "oblige" donation by supermarkets)
  - Italy (facilitate donation, incentives)
  - UK (Groceries Code Adjudicator, fair trading practices)

European policy Arena, Member States actions

- Voluntary agreements (already running for some years):
  - Courtauld Agreement (UK), Sustainable Food Alliance (NL), Format/Mattvet (NO), Chain Roadmap (BE)
- Urban City (Milan Urban Food Policy Pact, Amsterdam Metropolitan Solutions)

The Courtauld Commitment
wrap Working together for a world without waste

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1.2Mt
Packaging and Food Waste prevented

3.3Mt CO_2e saved

£1.8bn saved

Resource Efficient Food and dRink for the Entire Supply cHain (2015 – 2019)

26 partners, 12 countries

Multi stakeholder platforms: the Netherlands, Germany, Spain, Hungary, China

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The REFRESH Project

A central ambition of the REFRESH project is to develop a 'Framework for Action' model that is based on strategic agreements across all stages of the supply chain (backed by Governments), delivered through collaborative working and supported by evidence-based tools to allow targeted, cost effective interventions.

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The Netherlands, Cooperation with industry

- Cooperation between industry (sector organisations) and government since 2009
- Joint agenda on reduction food waste
- 2014 year against food waste

Rijksoverheid

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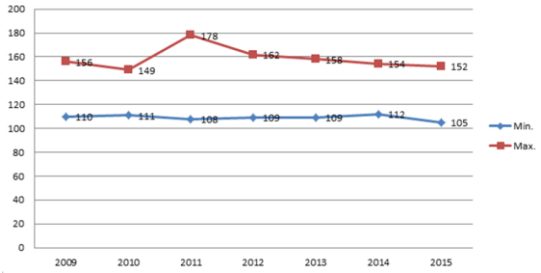
The Netherlands, time for a next step

Food waste across supply chain (kg.pp.py)



- Food waste losses on political en business agenda
- Awareness
- Lots of individual actions (research, campains, new businessmodels)
- But: no 20% reduction
- New phase

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UNITED AGAINST FOOD WASTE

WHAT IS THE TASKFORCE?

Prevention and reduction of food waste is a crucial part of achieving a circular economy. All partners in the Taskforce Circular Economy in Food will collaborate and accelerate to minimize food waste, both across the food chain and by consumers, and to contribute in a transparent manner to this aim.

WHY JOIN FORCES TO COMBAT FOOD WASTE?

1/3

A third of the world's food is lost or wasted every year.[1]

Food waste in Europe causes **6%** of all greenhouse gases emitted through human activity.[2]

Wasting less food = helping to achieve climate goals and ensuring there is enough valuable food for the growing global population.

That is equal to **105-152 KG** per capita annually in the Netherlands.[3]

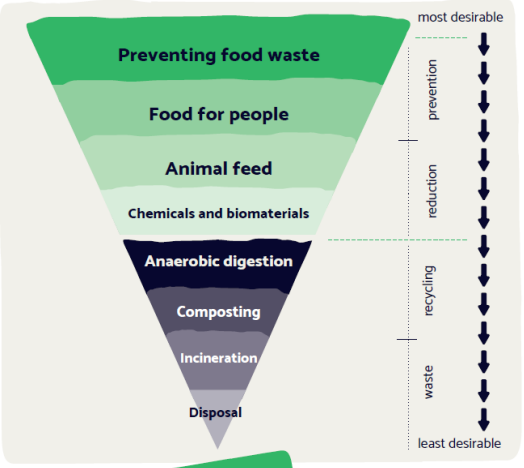
OUR OBJECTIVES

In a joint effort, we aim to make the Netherlands one of the first countries to cut food waste in half. We will make the Netherlands a leader and a global role model in terms of realizing Sustainable Development Goal 12.3.

2015 - 2030
50% reduction

The focus of the Taskforce

The Taskforce focuses on reducing food waste throughout the entire food chain. We will accomplish this by preventing and reducing as much food waste as possible and creating value from side flows according to the "Moerman Food Use Hierarchy".



1. Monitoring progress and impact: The Taskforce measures the effects of its individual and joint approach.

3. Joining forces to combat food waste by consumers: The Taskforce aims to achieve sustainable changes in behaviour through campaigns, interventions and living labs.

The Taskforce acts in four distinct ways:

2. Joining forces to combat food waste across the food supply chain: Taskforce members and leaders combine their strengths, networks and knowledge to develop innovative solutions.

4. Changing the rules: The Taskforce promotes the legislation and instruments needed to create a circular economy.

WOULD YOU LIKE TO PARTICIPATE? Join the Taskforce!

SAMENTEGENVOEDSELVERSPILLING.NL

[1] FAO, Global Food Losses and Food Waste–Extent, Causes, and Prevention, 2011.
[2] FUSIONS, Criteria for and baseline assessment of environmental and socio-economic impacts of food waste, 2016.
[3] Wageningen Food & Biobased Research, 2017, Monitor Voedselverspilling, update 2009-2015, rapport nummer 1747.

Taskforce Circular Economy in Food

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National Frameworks for Action

Alliantie Verduurzaming Voedsel

DSM BRIGHT SCIENCE. BRIGHT

Ministry of Economic Affairs

FOODTECHBRAINPORT

Google

Hutten
Altijd meer aandacht

Kennisinstituut Duurzaam Verpakken

KOKKERELLI KIDS UNIVERSITY

LambWeston SEEING POSSIBILITIES IN POTATOES

LTO Nederland

MVO NEDERLAND

milgro the recircle company

MOONEN packaging

NATUUR & MILIEU

NVRD

PROVERKA vegetable juices & fibres

Rabobank

PROTIX

RIJK ZWAAN

SCELTA

Sligro Food Group

FOOD WASTE XPERTS

Unilever

VNONCW

YOUTH FOOD Movement

eerlijk over eten Voedingscentrum

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Taskforce Circular Economy in Food

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Ecosystem for implementation & action






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FOOD WASTE XPERTS

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Dutch Champions 12.3 event 20 Maart 2018




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Business pilots on Surplus Food concepts

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Business pilots on Surplus Food concepts

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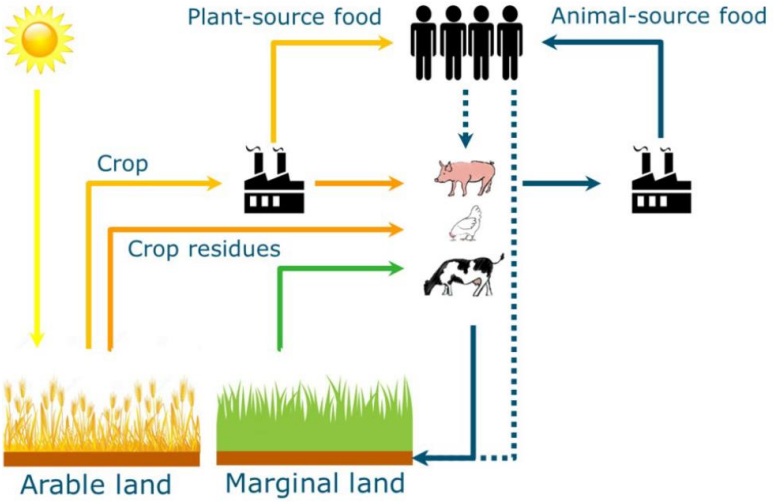
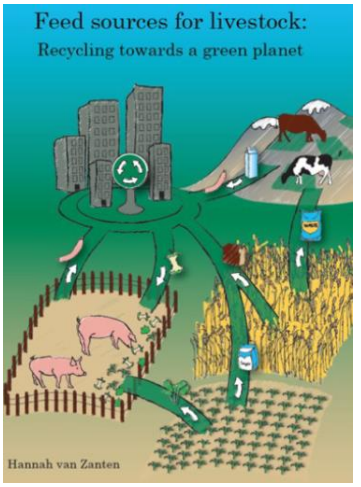
Concept of a Circular Narrative





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Circular systems & novel products

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Proti-Farm The Protein Company

PROTIX

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Do we stimulate the right options ?

THE PIG IDEA
LET THEM EAT WASTE

FEED BACK

Refresh

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ENVIRONMENTAL IMPACT OF FOOD WASTE RECYCLING

	Pig feed (wet)	Pig feed (dry)	Biogas	Compost
Damage to the ozone layer				
Carcinogens				
Non-carcinogenic toxins eg heavy metals				
Ionizing radiation				
Photochemical oxidant formation				
Global Warming Potential *				
Freshwater eutrophication				
Marine eutrophication				
Terrestrial eutrophication				
Eco-toxicity				
Fossil fuel depletion *				
Depletion of other non-renewable resources				
Acidification				
Particulate matter emissions				

* The Global Warming Potential and fossil fuel depletion calculations use the current UK energy mix. If renewable energy were to be used for the processing of the feed, feed would score better on these aspects.

ENVIRONMENTAL BENEFITS — MOST → LEAST

A scenario analysis

- Co-products
- Food-waste
- Marginal land

14 g protein per day

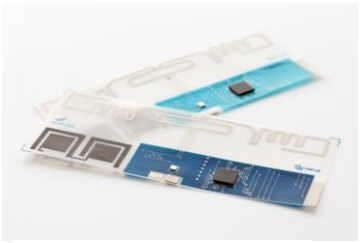
3 to 7 g protein per day

21 g protein per day

60 g protein needed
Livestock important role in global food supply

Technology & ICT as a game changer

Smart monitoring



Winner Food Valley Award 2013

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Decision Support modelling

Scenario's	Vegetable chain		Meat chain	
	Retailer	Producer	Producer	Retailer
Change of production season	X	X		
Variation in keep ability / shelf life	X	X	X	X
Variation order unit (combined with 'change of production season')	X	X	X	X
Variation temperature	X	X	X	X
Variation customer demand		X		
Waste vs. Out-of-Stock	X			X
Effect of promotions	X			X
Effect of other (better, smarter) order policies	X	X	X	X

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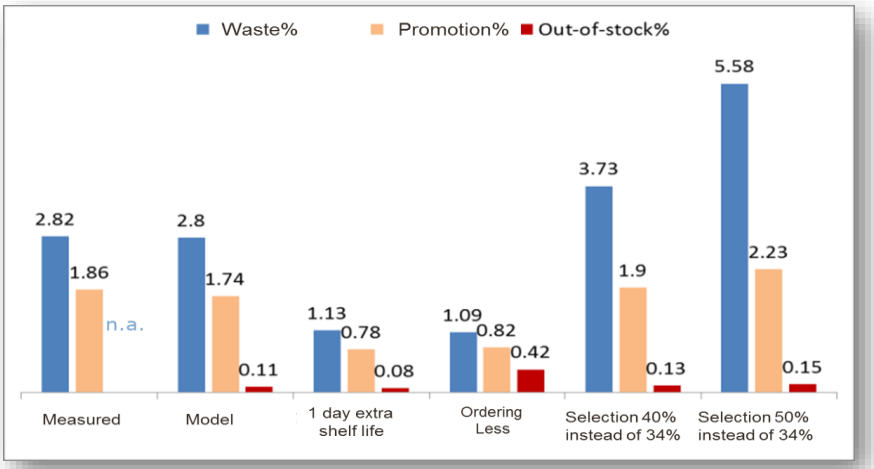
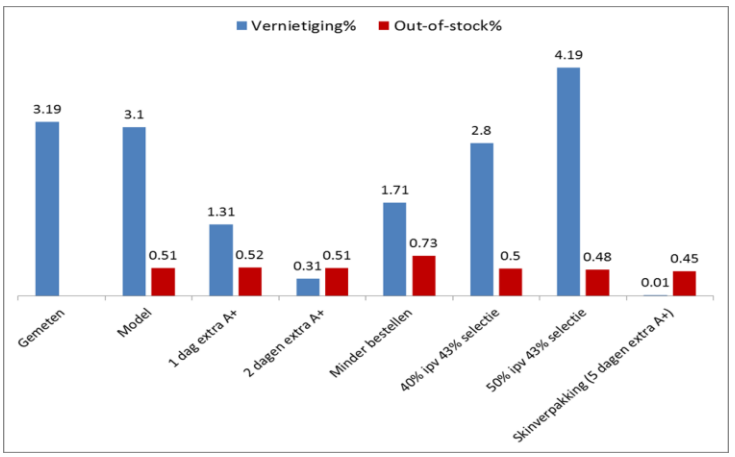
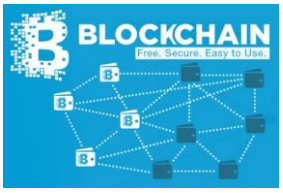
Decision Support modelling, iceberg lettuce



Decision Support modelling, packed pork meat



New business models



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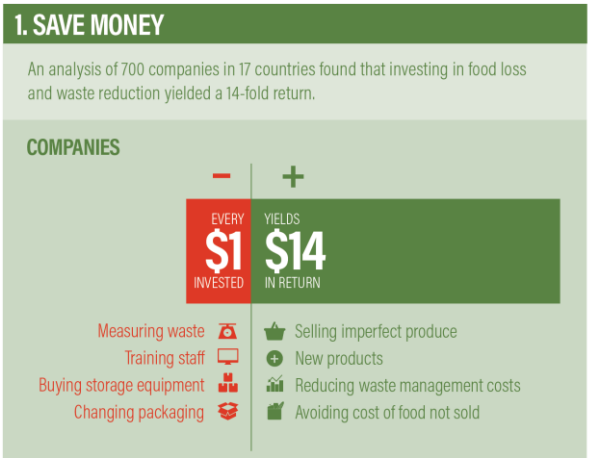
"business case" of FLW



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CHAMPIONS 12.3

Frameworks for action, some systemic aspects

- **Transparency** (Target, Measure, Act), Actions & Monitoring progress
- Supply chain **collaboration** (forecasting, utilisation & circular business models), value chains & **responsibility**
- **Externalities** & balance in economic, ecologic & social-economic impacts
- **Policy coherence** (e.g. biofuels – prevention should come first)
- **Economic & legal frameworks** (food -> feed, food -> food)
- Commitment for a collective **consumer driven** action program (harmonised consumer insights research)

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UNITED AGAINST FOOD WASTE

Refresh Community of Experts

Knowledge and Best Practice on Food Waste Prevention

refreshcoe.eu

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