

# Private-Public Collaborations A Successful Model to fight Food Waste

Experiences from EU FUSIONS and REFRESH

*Toine Timmermans*



## 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**.

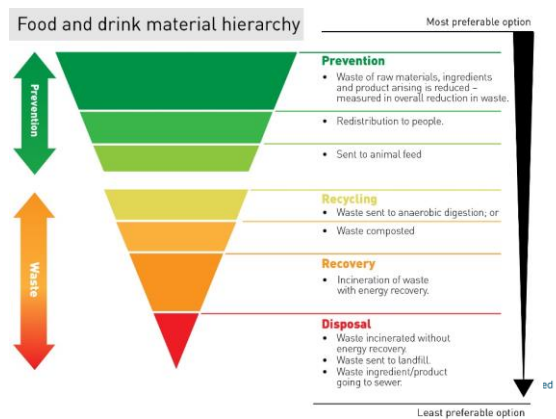


# Ambitions

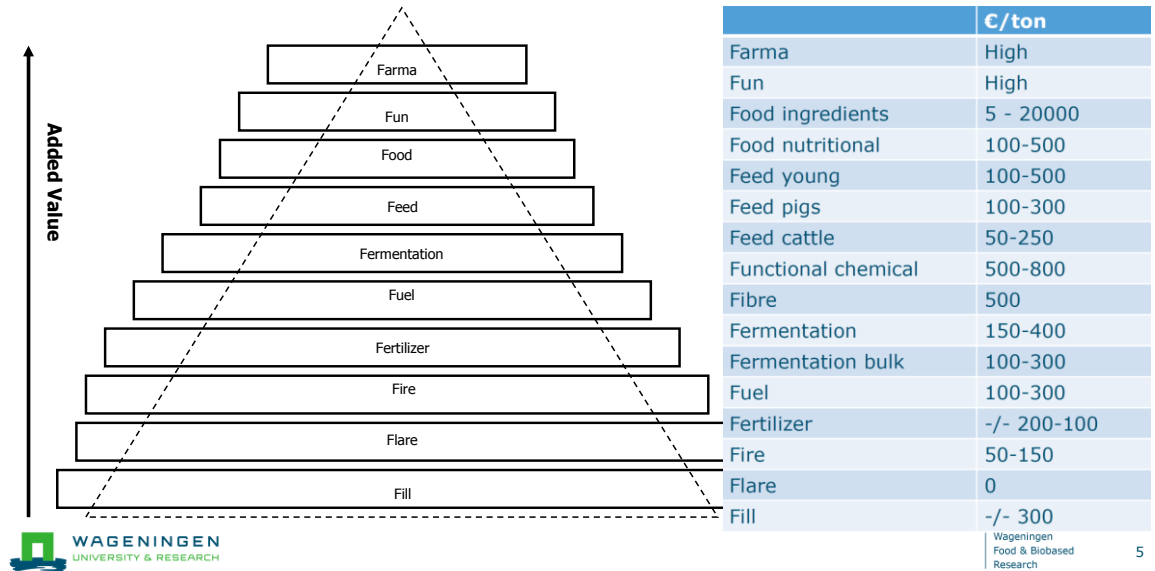
- Ambition **SDG 12.3**: towards 50% reduction of food loss & waste in 2030. Indicator: reduction of food loss and waste (kg) across the food supply chain.
- Contribute to the reduction and mitigation of **Greenhouse Gas emissions** (climate change, Paris Agreement) and other environmental impacts (water,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



# Circular economy & value chains/networks



# Resource efficiency: Biomaterials Use Hierarchy



5

## "business case" of FLW

### 1. SAVE MONEY

An analysis of 700 companies in 17 countries found that investing in food loss and waste reduction yielded a 14-fold return.

**COMPANIES**

-	+
EVERY <b>\$1</b> INVESTED	YIELDS <b>\$14</b> IN RETURN

- Measuring waste
- Training staff
- Buying storage equipment
- Changing packaging
- Selling imperfect produce
- New products
- Reducing waste management costs
- Avoiding cost of food not sold

### 2. FIGHT HUNGER

The world throws out 1 billion tons of food each year while 1 in 9 people globally remain malnourished.

### 3. CURB CLIMATE CHANGE

Food loss and waste produces 8% of global greenhouse gas emissions; if it were its own country it would be world's third-largest emitter.

### 4. CONSERVE RESOURCES

It takes a China-sized amount of land to grow food that's ultimately lost or wasted.

### 5. IMPROVE REPUTATION

Reducing food loss and waste improves relationships with customers, vendors and other stakeholders.

### 6. COMPLY WITH LAWS

Government agencies and companies sometimes must adhere to regulations on disposing organic waste, including food.

### 7. UPHOLD ETHICS

Executives, staff and consumers increasingly recognize food loss and waste reduction as 'the right thing to do.'

# FUSIONS & REFRESH



## European & global targets & initiatives

### SDG 12.3:

- 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
- EC Circular Economy Package Target = SDG 12.3



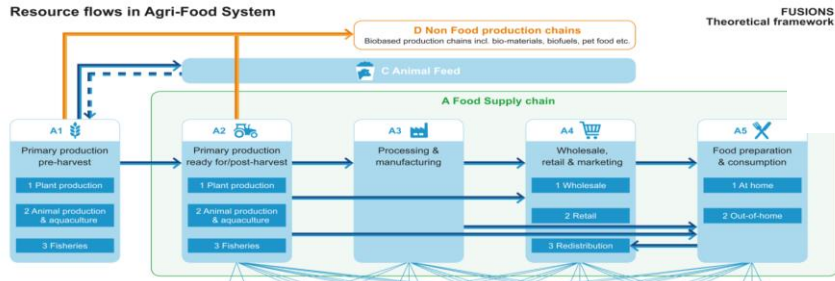
# FUSIONS Project Structure (2012-2016)



# FUSIONS multi-stakeholder platform



# FUSIONS definitional framework



**Food waste:** Any *food*, and *inedible parts* of food, removed from the food supply chain to be recovered or disposed to B3-B11, describing different end of life treatments



Wageningen Food & Biobased Research

## Food waste – latest estimate EU-28

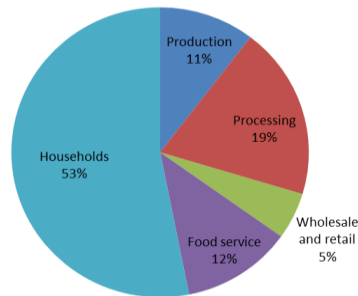
**EU-28 PRODUCES** 

 **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**

Wageningen Food & Biobased Research

# FLW PROTOCOL



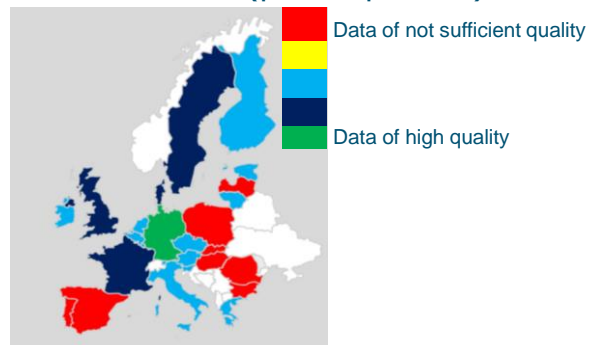
A multi-stakeholder effort to develop a global  
*FLW Accounting and Reporting Standard*



## 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
- a new 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)



**1.2Mt**  
Packaging and Food Waste prevented



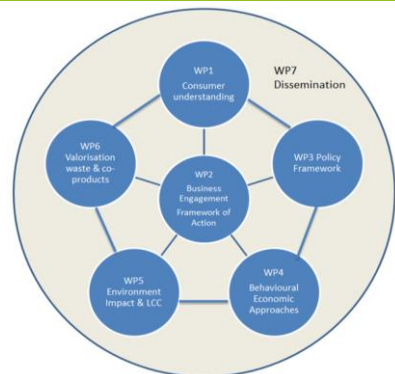
**3.3Mt** CO<sub>2</sub>e saved | **£1.8bn** saved



### 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



REFRESH is funded by the Horizon 2020 Framework Programme of the European Union under Grant Agreement no. 641933. The contents of this document are the sole responsibility of REFRESH and can in no way be taken to reflect the views of the European Union





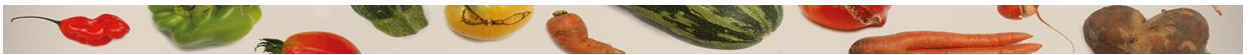
## The REFRESH Project

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.



[www.eu-refresh.org](http://www.eu-refresh.org)

Wageningen  
Food & Biobased  
Research



## 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



[www.eu-refresh.org](http://www.eu-refresh.org)

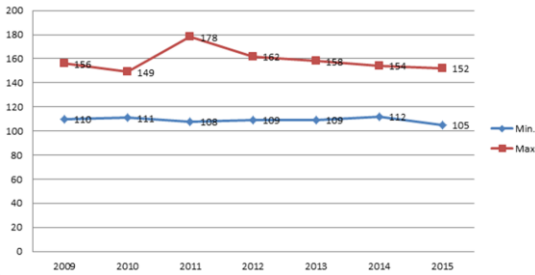
Wageningen  
Food & Biobased  
Research





## 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, campaigns, new businessmodels)
- But: no 20% reduction
- New phase



[www.eu-refresh.org](http://www.eu-refresh.org)

Wageningen  
Food & Biobased  
Research



## Dutch Taskforce Circular Economy in Food

# Taskforce Circular Economy: Ecosystem & impact



Wageningen  
Food & Biobased  
Research

# Surplus Food Retail/Food service Category



Wageningen  
Food & Biobased  
Research

# "Surplus" products as a category -> living lab



Wageningen  
Food & Biobased  
Research

# Circular systems & novel products

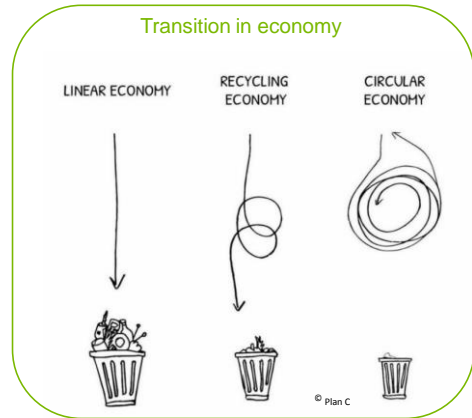


Wageningen  
Food & Biobased  
Research

## Data Intelligence Waste and Resource Management

### Market leader as outsourcing partner in independent waste and resource management

- Over 25 years of experience
- Core competence: data, analytics & intelligence
- Independent direction of 300+ waste processing and recycling firms
- > 250,000 tons under management
- 80 employees
- Active in 15 countries
- Market focus: Food, Logistics & Supply Chain, Automotive, Construction & Industry, Retail



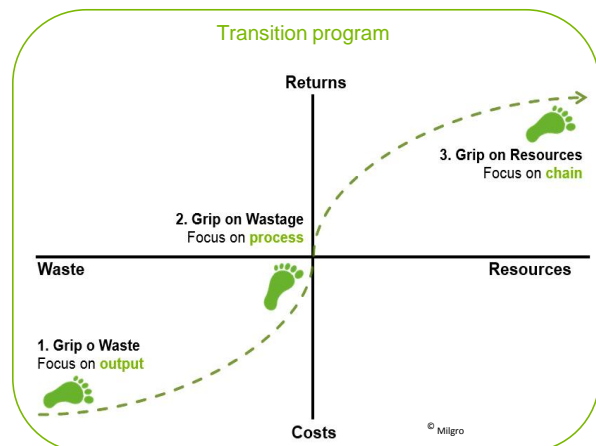
## Data Intelligence Waste and Resource Management

### Facilitate the transition toward a circular economy

Enable sustainable increase in prosperity by:

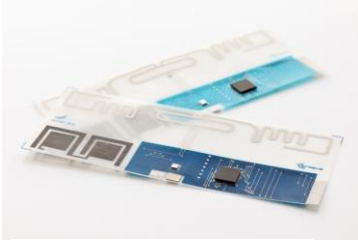
- Preservation of resources for future generations
- Responsible operational management: avoid environmental pollution
- Incorporation of ecology in economics: *'earth & earn together'*.

**'Waste is a resource that has gone off track'**



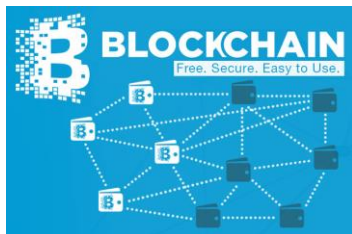
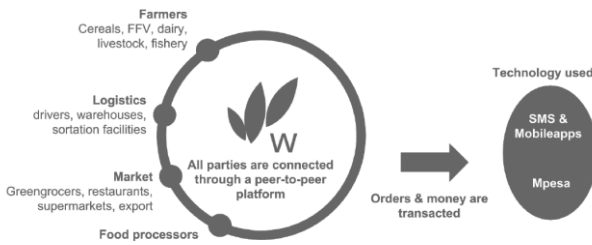
# Technology as a game changer

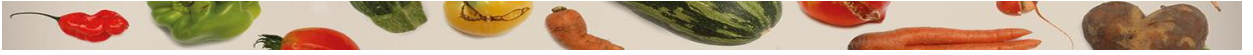
## Smart monitoring



Wageningen  
Food & Biobased  
Research

# Leapfrogging – new business models





## 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)



www.eu-refresh.org

Wageningen  
Food & Biobased  
Research



## Thanks for your attention



Knowledge and Best  
Practice on Food  
Waste Prevention

[refreshcoe.eu](http://refreshcoe.eu)

toine.timmermans@wur.nl

