

# FUSIONS & REFRESH

## Experiences from Public-Private partnerships across Europe

*Toine Timmermans*, 12 June 2017



# Partnerships Wageningen University & Research



**HLPE**  
High Level  
Panel of Experts



Food  
Loss + Waste  
PROTOCOL

CHAMPIONS 12.3



POSTHARVEST  
NETWORK.COM



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



WAGENINGEN  
UNIVERSITY & RESEARCH

Wageningen  
Food & Biobased  
Research

# 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
- EP Resolution on Food Waste Adopted in Plenary, 16 May 2017



**Food  
Loss + Waste**  
PROTOCOL





**Dave Lewis**  
CEO  
Tesco  
**Chair of Champions 12.3**



**Erik Solheim**  
Executive Director  
UNEP  
**Co-Chair of Champions 12.3**



**Evelyn Nguleka**  
President  
World Farmers' Organisation



**Vytenis Andriukaitis**  
Commissioner for  
Health and Food Safety  
European Commission



**Peter Bakker**  
President  
World Business Council  
for Sustainable Development



**John Bryant**  
Chairman of the Board  
Kellogg Company



**Paul Bulcke**  
CEO  
Nestlé S.A.



**Wiebe Dreijer**  
Chairman of the  
Executive Board  
Rabobank



**Shenggen Fan**  
Director General  
International Food and Policy  
Research Institute



**Peter Freedman**  
Managing Director  
The Consumer  
Goods Forum



**Louise Fresco**  
President  
Wageningen University  
& Research



**Liz Goodwin**  
Senior Fellow and  
Director, Food Loss and  
Waste WRI



**Marcus Gover**  
Chief Executive Officer  
WRAP



**Hans Hoogeveen**  
Ambassador and Permanent  
Representative of the  
Netherlands to UN  
Organisations for Food and



**Yolanda Kakabadse**  
President  
WWF International



**Sam Kass**  
Senior Food Analyst  
NBC News  
(former White House chef)



**Michel Landel**  
CEO  
Sodexo Group



**Esben Lunde Larsen**  
Minister  
Ministry of Environment  
and Food, Denmark



**Gina McCarthy**  
Administrator  
U.S. Environmental  
Protection Agency



**José Antonio Meade**  
Secretary  
Secretariat of Finance  
and Public Credit, Mexico



**Denise Morrison**  
President and CEO  
Campbell Soup  
Company



**Kanayo F. Nwanze**  
President  
International Fund for  
Agricultural Development



**Raymond Offenheiser**  
President  
Oxfam America



**Rafael Pacchiano**  
Secretary, Department of  
Environment & Natural Resources,  
Mexico



**Cao Duc Phat**  
Minister, Ministry of  
Agriculture and Rural  
Development, Vietnam



**Paul Polman**  
CEO  
Unilever



**Juan Lucas Restrepo Ibiz**  
Chairman  
Global Forum on  
Agricultural Research



**Judith Rodin**  
Director  
Rockefeller Foundation



**Achim Steiner**  
Director  
Oxford Martin School,  
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**Tristram Stuart**  
Founder  
Feedback



**Rhea Suh**  
President  
Natural Resources  
Defense Council



**Rhoda Peace Tumusiime**  
Commissioner for  
Rural Economy and Agriculture  
African Union



**Oyun Sanjaasuren**  
President  
2<sup>nd</sup> United Nations  
Environment Assembly



**Lindiwe Majele Sibanda**  
CEO & Head of Mission  
Food, Agriculture & Nat.  
Resource Policy Network



**Feike Sijbesma**  
CEO  
Royal DSM



**Andrew Steer**  
President and CEO  
World Resources Institute



**Sunny Verghese**  
CEO and Co-Founder  
Olam International

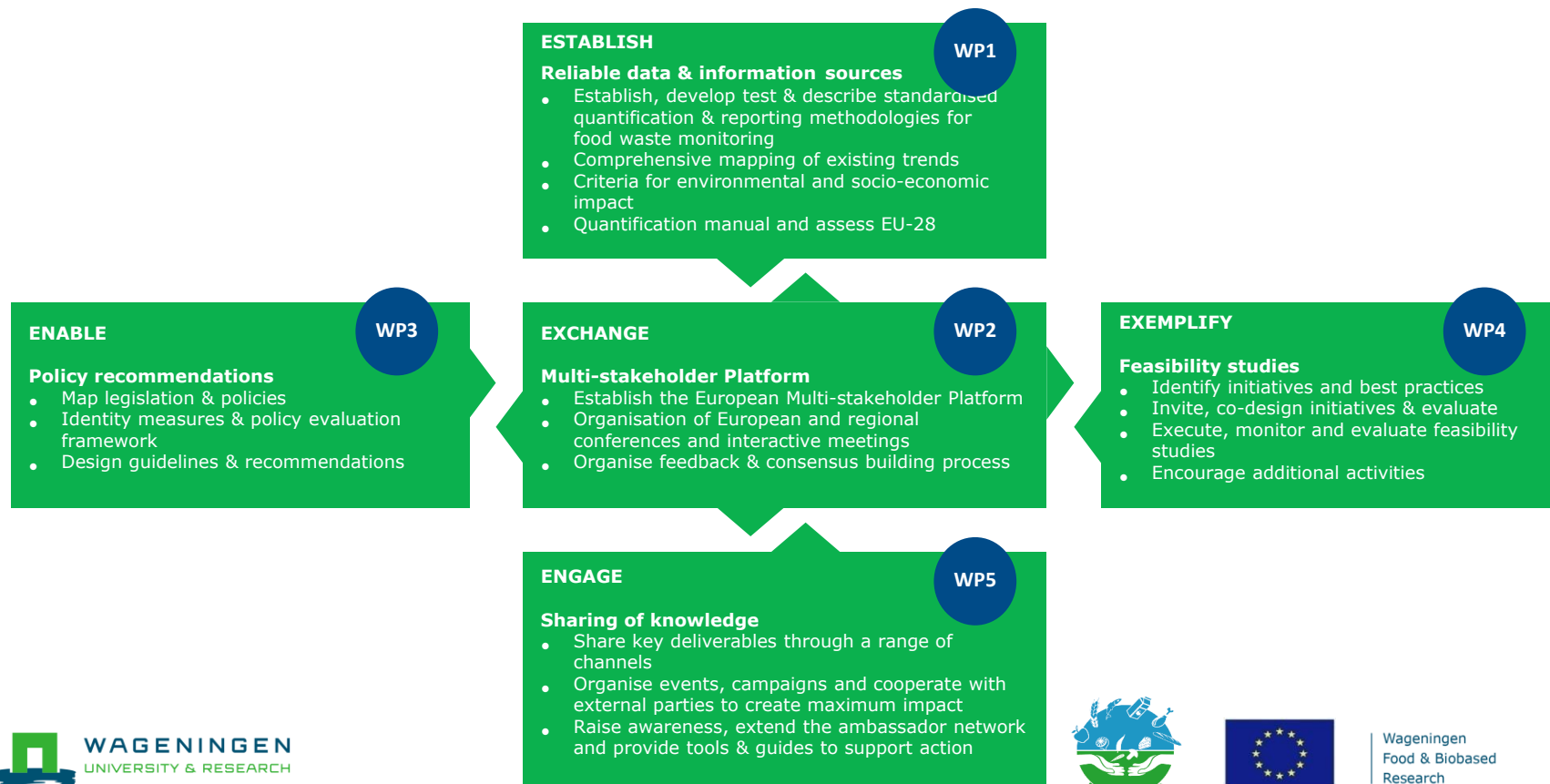


**Tom Vilsack**  
Secretary  
U.S. Department  
of Agriculture



**Senzeni Zokwana**  
Minister  
Ministry of Agriculture,  
Forestry and Fisheries, South Africa

# FUSIONS Project Structure (2012-2016)





# FUSIONS multi-stakeholder platform



**Resource flows in Agri-Food System**

**D Non Food production chains**  
 Biobased production chains incl. bio-materials, biofuels, pet food etc.

**C Animal Feed**

**A Food Supply chain**

**A1** Primary production pre-harvest  
 1 Plant production  
 2 Animal production & aquaculture  
 3 Fisheries

**A2** Primary production ready for/post-harvest  
 1 Plant production  
 2 Animal production & aquaculture  
 3 Fisheries

**A3** Processing & manufacturing

**A4** Wholesale, retail & marketing  
 1 Wholesale  
 2 Retail  
 3 Redistribution

**A5** Food preparation & consumption  
 1 At home  
 2 Out-of-home

**FUSIONS**  
 Theoretical framework

Waste stream	Waste stream	Waste stream	Waste stream
<b>B2</b> Biobased materials & biochemicals processing	<b>B4</b> Plough-in/ not harvested	<b>B7</b> Co-generation	<b>B10</b> Landfill
	<b>B5</b> Anaerobic digestion	<b>B8</b> Incineration	<b>B11</b> Discards

# Food waste – latest estimate EU-28

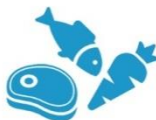
EU-28  
PRODUCES



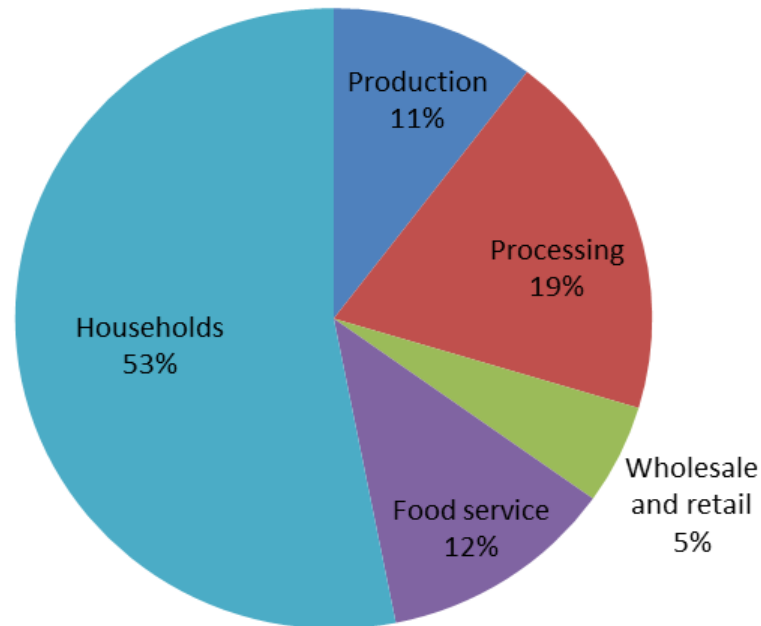
88 MILLION  
TONNES  
of food waste per year

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"





# Gleaning Project – Several countries

## Objectives

- **Bring together & support** existing **gleaning projects** and understand the **opportunities** and **challenges** to further **catalyse** gleaning movements across **Europe**
- Develop guidance & dissemination tool

## Outcomes:

- **Support provided** to 4 countries (Belgium, Spain, France, Greece)
- **Gleaning guide** and **website** set up



# Cr-EAT-ive Project – Greece

## Raise awareness and influence behaviour

### Objectives

- **Raise awareness** on food waste and **influence behaviour** of kindergarten children, their parents, teachers & staff

### Outcomes

- Food waste **diaries** (30 families)
- **Teaching materials** for children (teacher guides, fun exercises & a board game)
- Educational **guidelines** aimed at parents
- Guidance & training of canteen staff



Food Waste Diary



Guidelines for home.



#### Project Participants

6 Kindergardens  
480 children  
480 families  
25 Teachers  
7 Kindergarten Heads



# Impact & structural change of behaviour

- Frontrunners prevent 20-35% food waste
- Suboptimal Meal planning and large portion size major causes for food waste
- Waste diary is an important instrument to increase awareness
- Benefit from local collaboration (municipality, waste managements, schools, local supermarket, social innovation). Social context important driver for change !



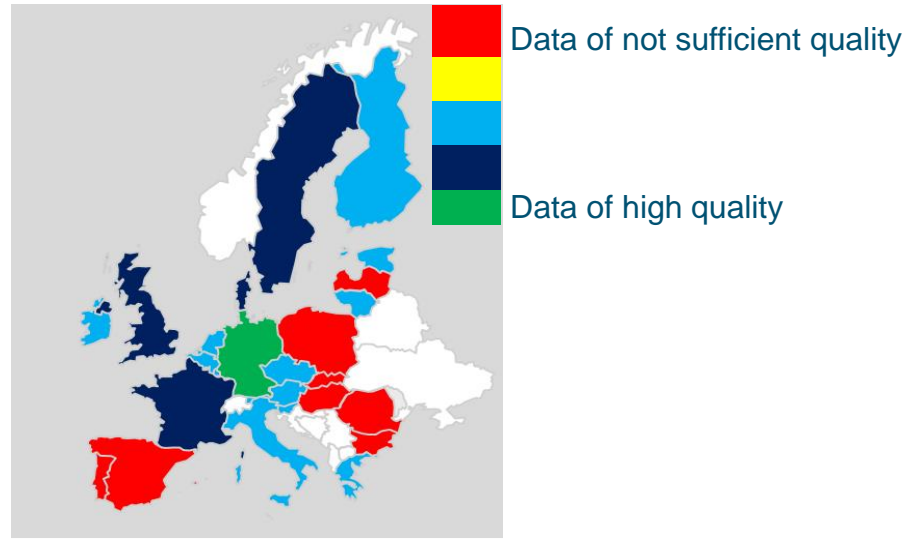
# European policy Arena; What's happening

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)



Groceries Code  
Adjudicator

Groceries Code Adjudicator  
**Annual Report and Accounts**

2015 – 2016



# 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

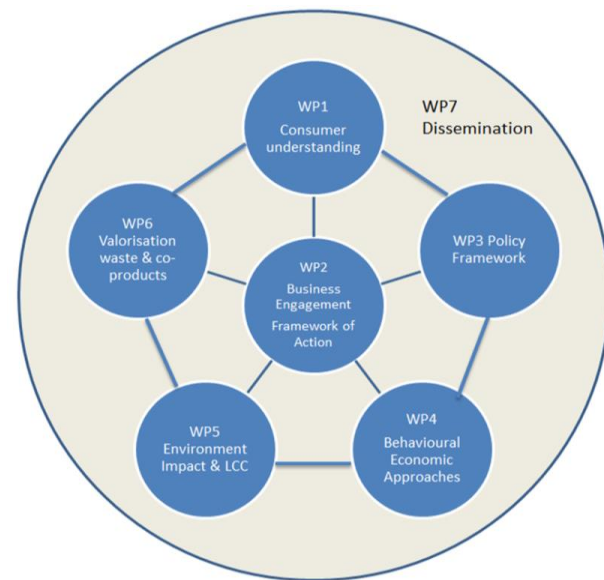




# Resource Efficient Food and dRink for the Entire Supply cHain (2015 – 2019)

26 partners, 12 countries

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







# 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.

Success will support transformation towards a more sustainable food system, based on Circular Economy principles, benefitting Europe's economy, environment and society.



# Frameworks for Action

-  Collaborative agreement between a number of key public and private organisations to take action against an agreed ambition or target.
-  Based on voluntary action by the actors involved without the need for legislation.





# Summary of success factors

- 🥦 Strong lead organisation and right mix of key players
- 🥦 Governmental involvement at early stage
- 🥦 Engage signatories in the early stages
- 🥦 Effective measuring and reporting framework
- 🥦 Availability of funding aids effectiveness

# Dutch Taskforce Circular Economy in Food



# (Social) innovation & systemic causes

EAT  
FIVE  
A DAY

WEIRD  
FRUITS &  
VEGETABLES

Intermarché  
Inglorious  
fruits and  
vegetables  
a groenwacht  
doornet  
food waste



INGLORIOUS  
fruits & vegetables

by Intermarché



*"Fruittelers zijn pionnen van Europees stratego"*

**Honderdduizenden kilo's hardfruit klaar voor vernietiging**

Tholen - Honderdduizenden kilo's appels en peren, uitgespreid op het Belgisch-Limburgse land, liggen klaar om vernietigd te worden. Dat gebeurt met het overaanbod fruit dat wordt 'weggehaald' om de markt te beschermen. Fruitteler Kris Franssens maakte deze week foto's van het fruit op de velden. Na de Russische boycot zorgde Europa ervoor dat er een interventieregeling kwam waardoor een bepaald deel van fruit uit de markt wordt gehaald. De appels en peren kunnen niet worden 'weggegeven', want dan komt het alsnog op de markt terecht.

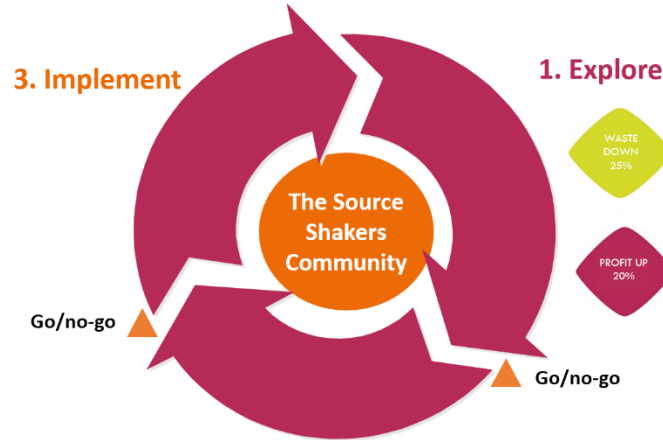


**Tienduizenden biologische bloemkolen halen de winkel niet**

14 okt 2016 - 11:44 • 0 reaksjes • Frysk



# Taskforce Circular Economy: Ecosystem & impact





# Surplus Food Retail/Food service Category





# Food technology & value creation



The agri & food industry is stuck with a large vegetable waste stream. Despite increasingly more sophisticated supply and demand planning tools it is inevitable that waste streams can't be reduced to acceptable levels. This is particularly frustrating with the knowledge that large populations in the world are deprived of fresh and high nutrient foods.

## Fresh4Later



Fresh4Later is new preservation method which uses a low temperature ( $40^{\circ}\text{C}$ ) drying process to create an ambient granulate structure that retains nutrients, taste, aroma and colour.

This literally uncooked fresh material maintains its value for the international food processing industry.

By combining bespoke vegetable blends, Fresh4Later can help to relieve malnutrition in food crisis regions in the world.

**Fresh food preserved for later....a next step in sustainable food management.**



### What's New?

- ✓ A simple, low energy process
- ✓ Turning waste stream vegetables into high value, highly nutrient ingredients with a long shelf life
- ✓ Cheap distribution around the globe, because we take the water out

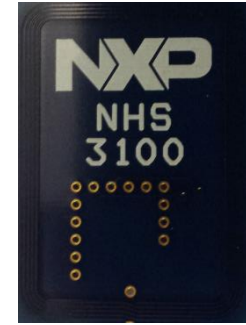
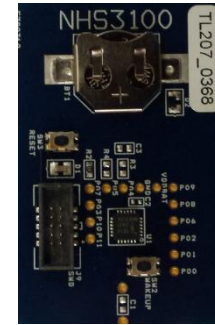
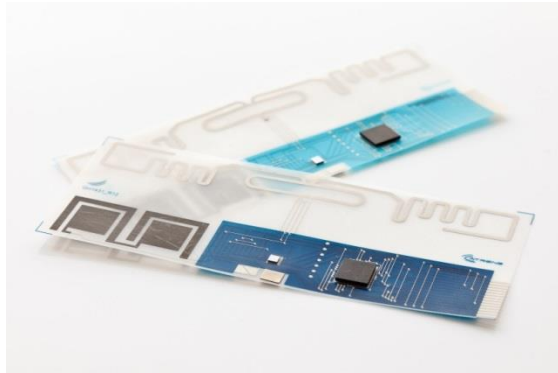


# Circular systems & novel products



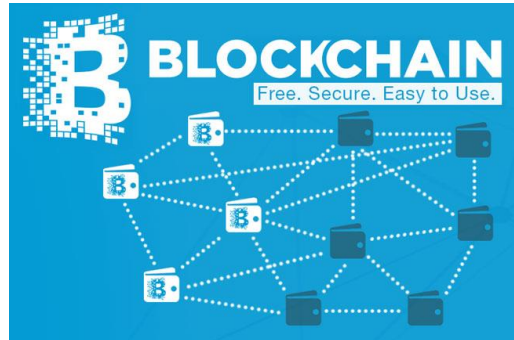
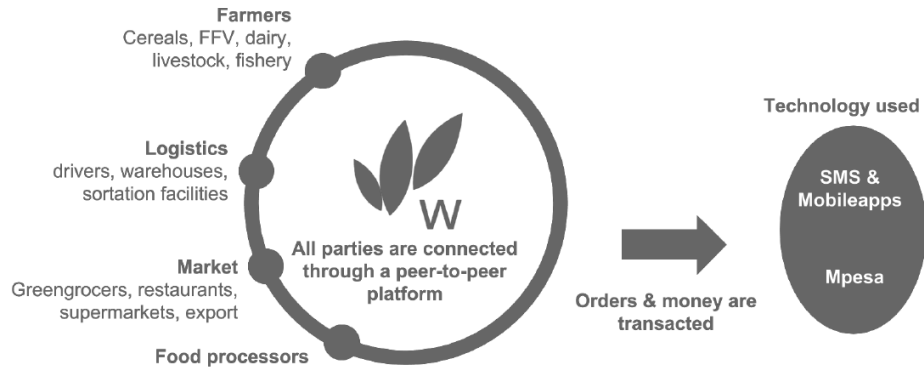
# Technology as a game changer

## Smart monitoring





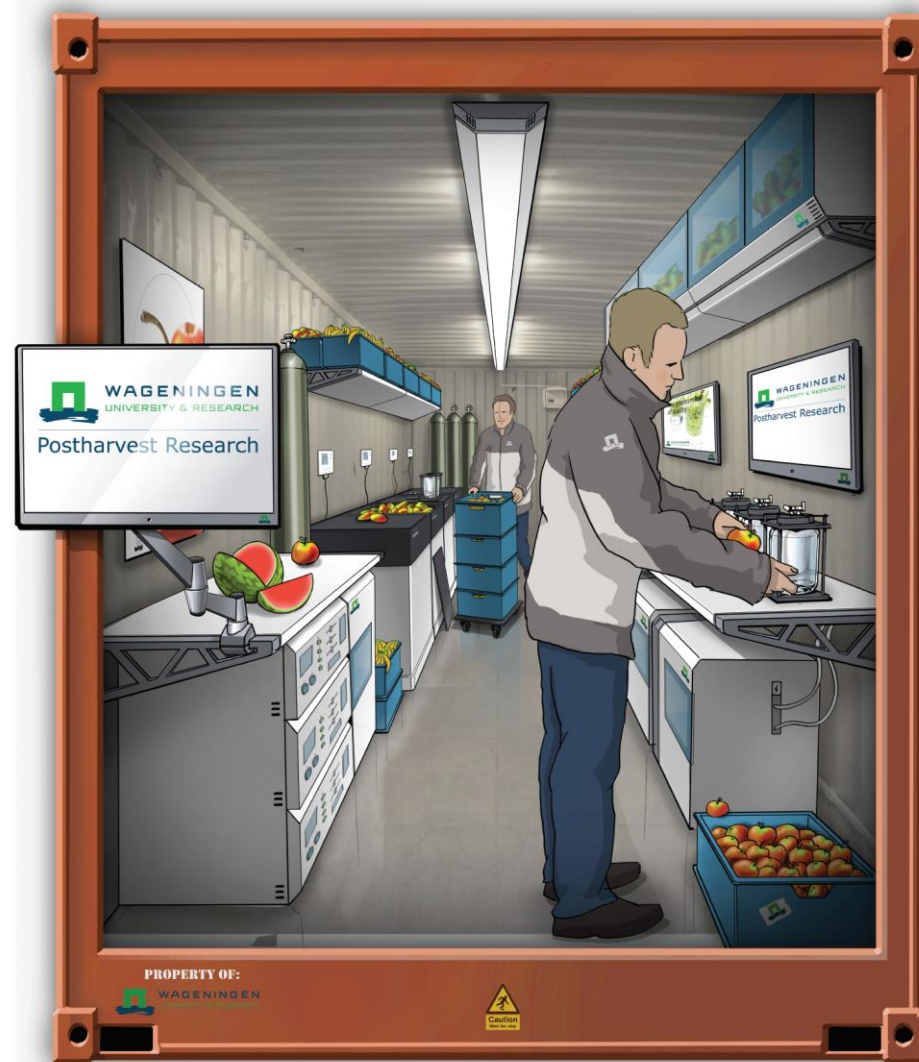
# Leapfrogging – new business models



# TRUPHE

## TRansportable Unit for Post-Harvest Excellence

- Transportable (mobile) post-harvest research facility
- Made available for local farmer groups or cooperation's
- Time to do effective experimental research shortened dramatically
- Flexible and network-based solution by connection to global community of experts





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

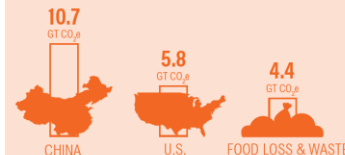
## 2. FIGHT HUNGER

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."**



# Thanks for your attention



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