

Sustainable canteens & restaurants





In canteens

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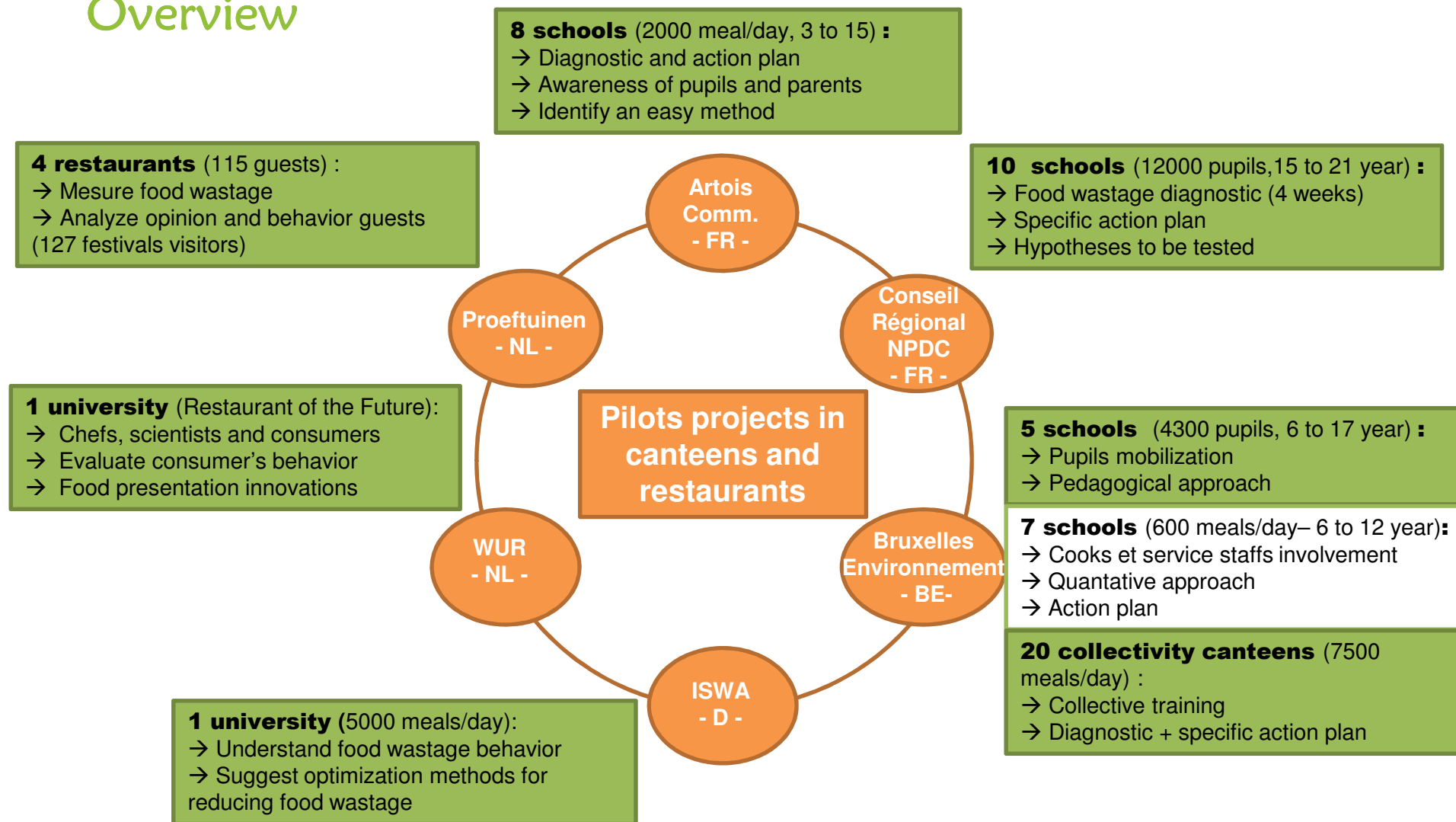
ISWA (D)



Pilot projects overview



Overview



Sustainable canteens & restaurants

- ◆ Measuring food wastage in the out of home sector – canteens
- ◆ Common methodology



Measuring is knowing
"GreenCook COMMON
METHODOLOGY"





= co-production based on a variety of pilots
= work in progress
≠ rigid framework but a guideline

What is food waste?

→ Common definitions

**GreenCook
Focus**

Avoidable food waste

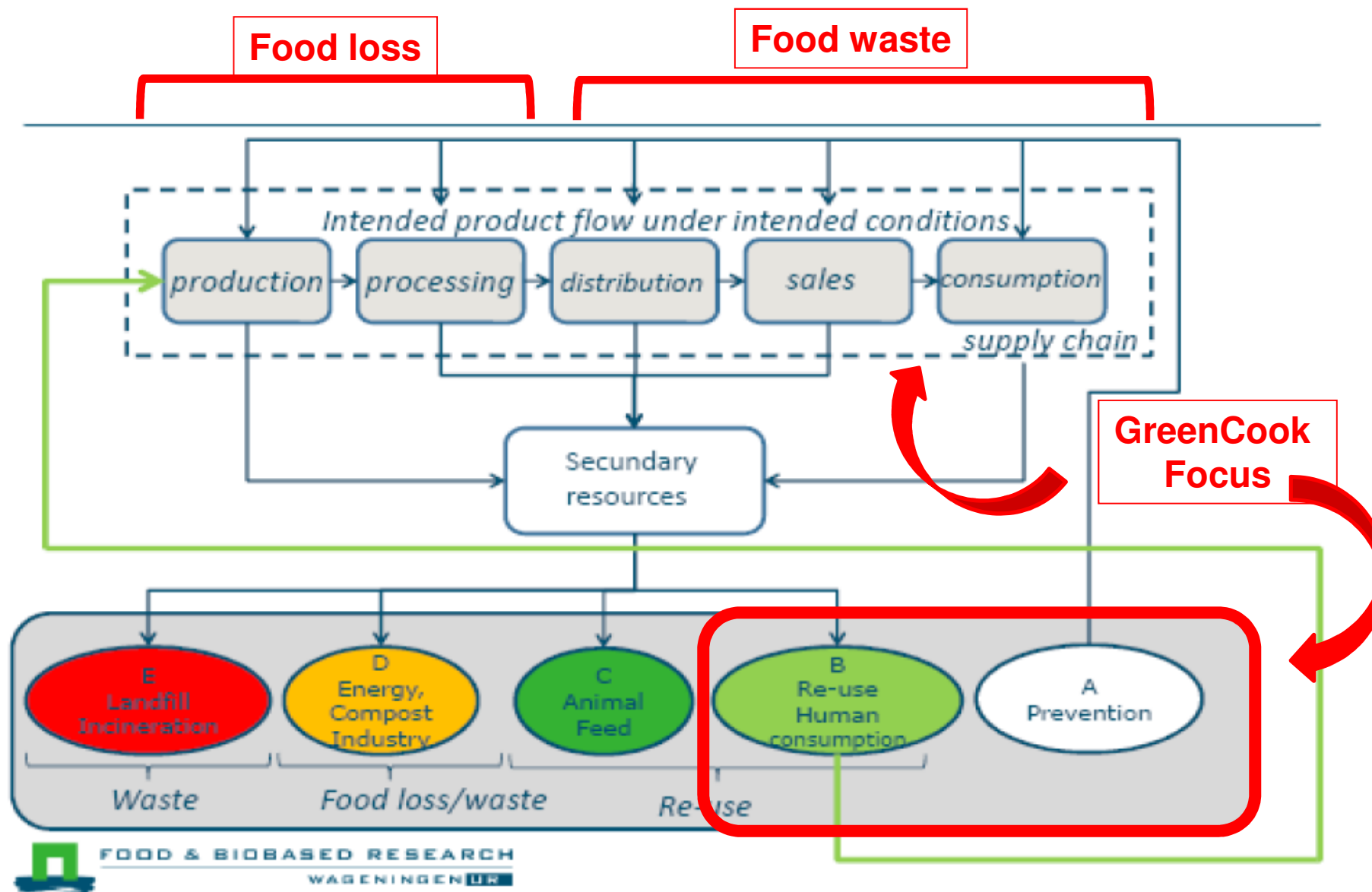
- Food products which are still fully fit for human consumption at the time of discarding or would have been edible if it had been eaten on time or managed in a more appropriate way (e.g.: out-of-date, leftovers from plates, overproduction, etc.)

Partly avoidable food waste

- Food parts which are discarded because of cooking or consumer habits but which could be eaten if prepared in an appropriate way (e.g.: vegetable leaves, peelings, fish heads, etc.)

Unavoidable food waste

- Unedible food waste in normal conditions (e.g.: bones, egg shells, etc.)



Why measure food waste?

Measuring:

- produces « objective » data
- allows to move from wishful-thinking to action-oriented thinking
 - Knowing amounts of food waste = powerful trigger
 - Converting amounts into impacts = even more powerful

GREENCOOK RATIONALE:

Economics



Ethics



Environment



Depending on the audience, various rationals can be used for awareness-raising.

ECONOMICAL IMPACT

increase awareness and consciousness

FORMULA



How many meals are wasted per week?

$$N_{\text{Meals wasted / week}} = Q_{\text{FoodWaste}} / W_{\text{meal}}$$

$$Q_{\text{FoodWaste}} = Q_{\text{op}} + Q_{\text{cp}}$$

Q_{OP} = amounts of waste due to overproduction

Q_{cp} = amounts of food waste from the customers' plates

W_{meal} = Meal tray average weight = 450 grs*
* in France – primary schools

ECONOMICAL IMPACT

ArtoisComm's pilots examples

FORMULA

$$N_{\text{Meals wasted / week}} = Q_{\text{FoodWaste}} / W_{\text{meal}}$$

DATAS TO BE COLLECTED



Food waste generated
= weighings of leftovers from plates

weighings = = Numbers of meals wasted

C_{meal} = Food cost per meal = **1.25€ (foodstuff only)**

2,91 € = full cost – 1,50 € = paid by parents – 1,41 € paid by municipality



INFORMATION ON PRIMARY SCHOOL N° 3

Number of pupils	287
Number of guest	Between 100 and 120
Staff in the kitchen	2
Managing staff	10
Type of catering	Cold link – Central Kitchen of Bethune
Choice	Unique
Cost of meal (only food)	1,25 euros

ECONOMICAL IMPACT

RESULTS

$$N_{\text{Meals wasted / week}} = Q_{\text{FoodWaste}} / W_{\text{meal}}$$

$$53\,200 / 450 = 118 \text{ meals}$$

$$C_{\text{waste}} / \text{Week} = C_{\text{meal}} \times N_{\text{mealsWasted}}$$

$$1,25 * 118 = 147,5 \text{ €}$$

ECONOMICAL IMPACT

RESULTS

118 meals per week

=

147,5 €

Nmeals Wasted per Year

=

4 138

Cwaste per year

=

5 172,5 €

ENVIRONMENTAL RATIONAL



We could use  equivalents

BUT



do you really understand what it is?

Therefore, discussions are on-going in the partnership.:

- litres of petrol use → feasible
- litres of water use → poor data base
- hectares of land use → poor data base

ENVIRONMENTAL RATIONAL



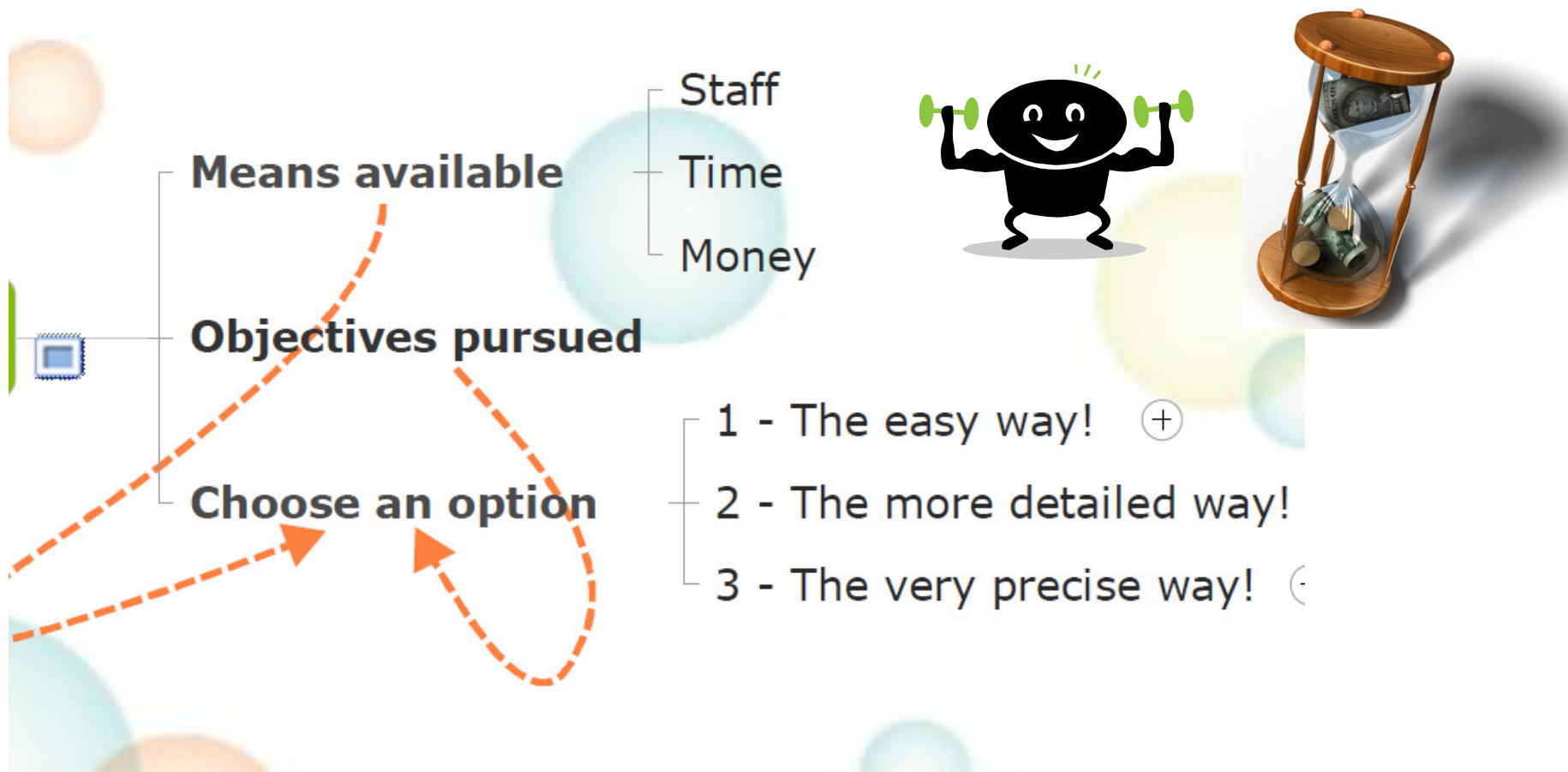
CO₂ emissions & petrol use

1kg food waste \triangleq 1.81kg CO ₂ e	0,69 l diesel
1 kg meat \triangleq 4.58 kg CO ₂ e	0,73 l diesel
1 kg cereal products \triangleq 1.12 kg CO ₂ e	
1 kg fruits and vegetable \triangleq 0.15 kg CO ₂ e	0,06 l diesel
1 kg diary products and eggs \triangleq 2.40 kg CO ₂ e	0,90 l diesel

Water footprint

1kg wheat \triangleq approx. 1,830 liters
1kg meat \triangleq approx. 12,110 liters:

How to measure food waste?



How to measure food waste?

= Basic extrapolation approach

Expected outputs

For who?

Format = 2 days

Means required

Staff

Material

Documents

1 Scale

5 Containers

Overproduction

Buffets

Leftovers from customers

Soup

Bread

Leftovers

Data to collect

Calculations needed



MID-TERM FINDINGS

Conseil Régional Nord Pas de Calais
quantitative and qualitative research

QUANTITATIVE - INITIAL DIAGNOSIS
1 day format / pilot






HYPOTHESIS



QUALITATIVE RESEARCH
2 weeks at least / pilot

MID-TERM FINDINGS

HYPOTHESIS

ITEM	HYPOTHESIS	ASSUMPTION
Food quality	If quality foodstuffs 	Less food wastage
Food offer	Multiple choice 	Over-production foodwastage
Portionning standards	Portion mis-sizing 	No compliance Food wastage

MID-TERM FINDINGS

HYPOTHESIS

ITEM	HYPOTHESIS	ASSUMPTION
Planning factor	no compliance	Leftovers from buffet
Just in time	Multiple choice and just in time	Less food wastage
Scramble (salad'bar)	Multiple choice and portion free	Less food wastage



MID-TERM FINDINGS

HYPOTHESIS

PORTION MIS-SIZING

PLANNING - FACTOR

Careful ordering and menu planning



QUALITY STUFF



RESULTS

CONFIRMED

* Only starchy food

CONFIRMED

Compliance less than 5% overproduction
No compliance or system 9% overproduction

PARTIALLY CONFIRMED

Easy to eat – no chewing pattern

Step 1 : When assumptions confirmed, optimisation methods to be implemented

Step 2 : Regular food waste audit to measure any improvement

Step 3 : If existing strategy proved to be right then it becomes a canteen's best practise guideline for all canteens

MID-TERM FINDINGS



MEASURING IS KNOWING AND KNOWING IS CRUCIAL FOR ACTING

RAISE UP AWARENESS

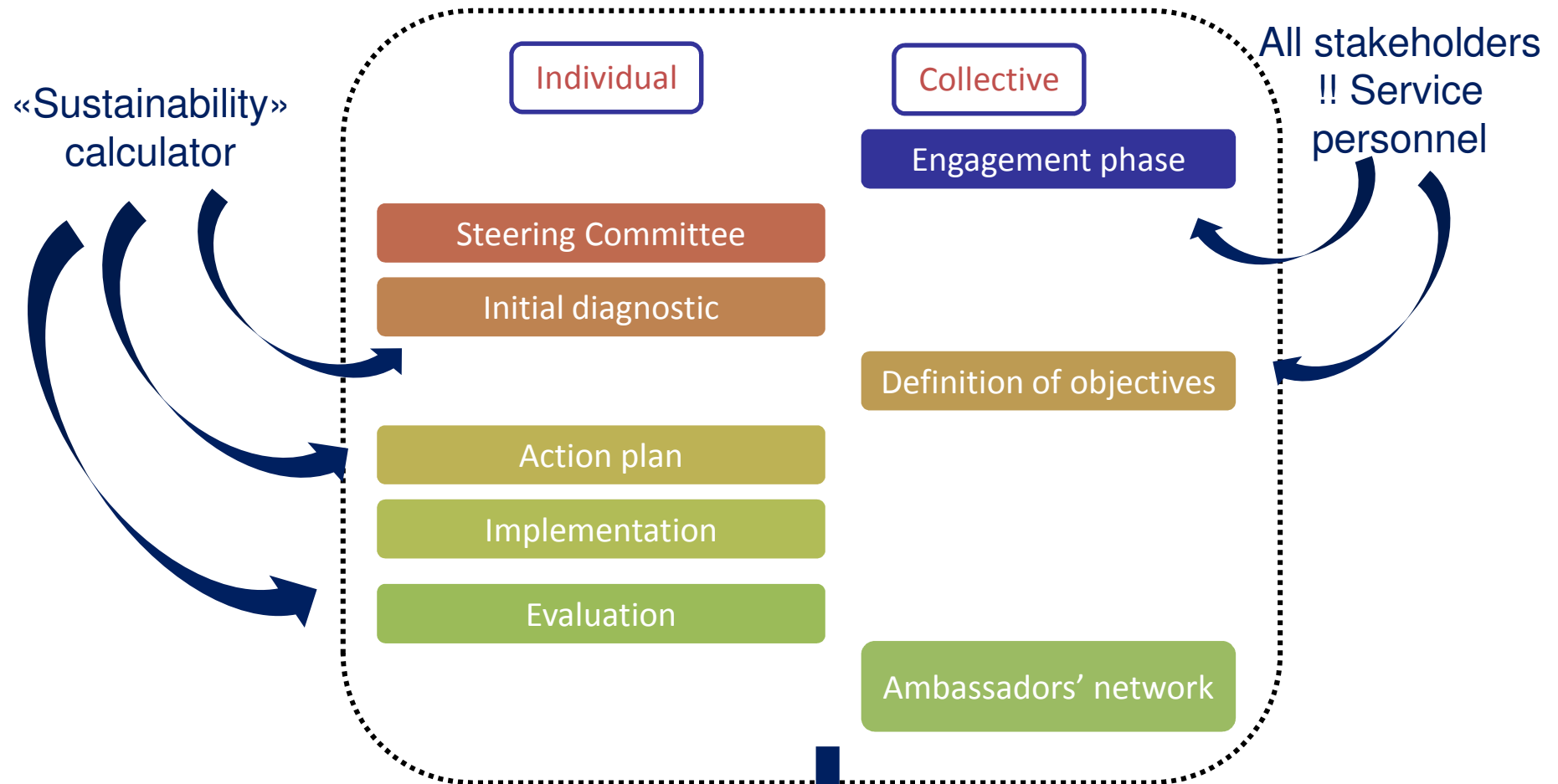
GET PEOPLE INVOLVED – ALL STAKEHOLDERS

ASSESS FOOD WASTAGE

Measure and communicate on the results on a regular basis with all stakeholders (volumes, number of meals wasted each day, tips etc...)



Tools developed to mobilise stakeholders



Training programme:
Lessons learnt & good practices in
future sustainable food practical guide

IBGE Calculator

Food to Food canteen

◆ Video – LEGTA Tilloy les Mofflaines



In restaurants

Marianne Karstens

De Proeftuinen (NL)

Duncan O'Brien

Sustain (UK)

Measuring food waste :

Distinctive features of restaurants

Lessons from Holland and the UK



Total 4.4 billion euro food waste per year

Consumer: 2,4 billion euro

Average of 40 kilo per person, value of 135 euro per person per year

Food supply chain: 2 billion euro

Restaurants & Catering: 3 – 6 %

Average of 5-10% is thrown away on purchase



Total approximate 16 million tonnes or 22 billion pounds of food wasted per year

Households: 12 billion pounds of avoidable food waste per year

Average of 240 pounds per person per year

Food supply chain: 3.6 million tonnes

Restaurants & Catering: 4-7% e.g. Approx 600,000 tonnes to landfill

Approximately 6-15% is thrown away on purchase

UK restaurant waste measurements

Preparation waste: 65%

Customer plate waste: 30%

Spoilage: 5%



“ For a restaurant turning over £10,000 a week, this would equal at least £200 food being thrown in the bin each week. It is plain to see the cost savings from reducing this amount of food waste by 20% – the restaurant has avoided £40 of their food being thrown out each week. Over the course of the year, consistent food waste reduction by 20% would save the restaurant £2,080, at least. ”

Sustainable Restaurant Association – Too Good To Waste report



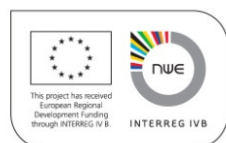
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LOCAL FOOD, LESS WASTE



PREPARATION	
80%	
Vegetable	Animal
55%	25%

GUESTS	
20%	
Bread	Remaining
6%	14%

An average of 0,46 kg per guest is wasted



Measuring Food Waste





What to consider when engaging restaurants in food waste measurement.

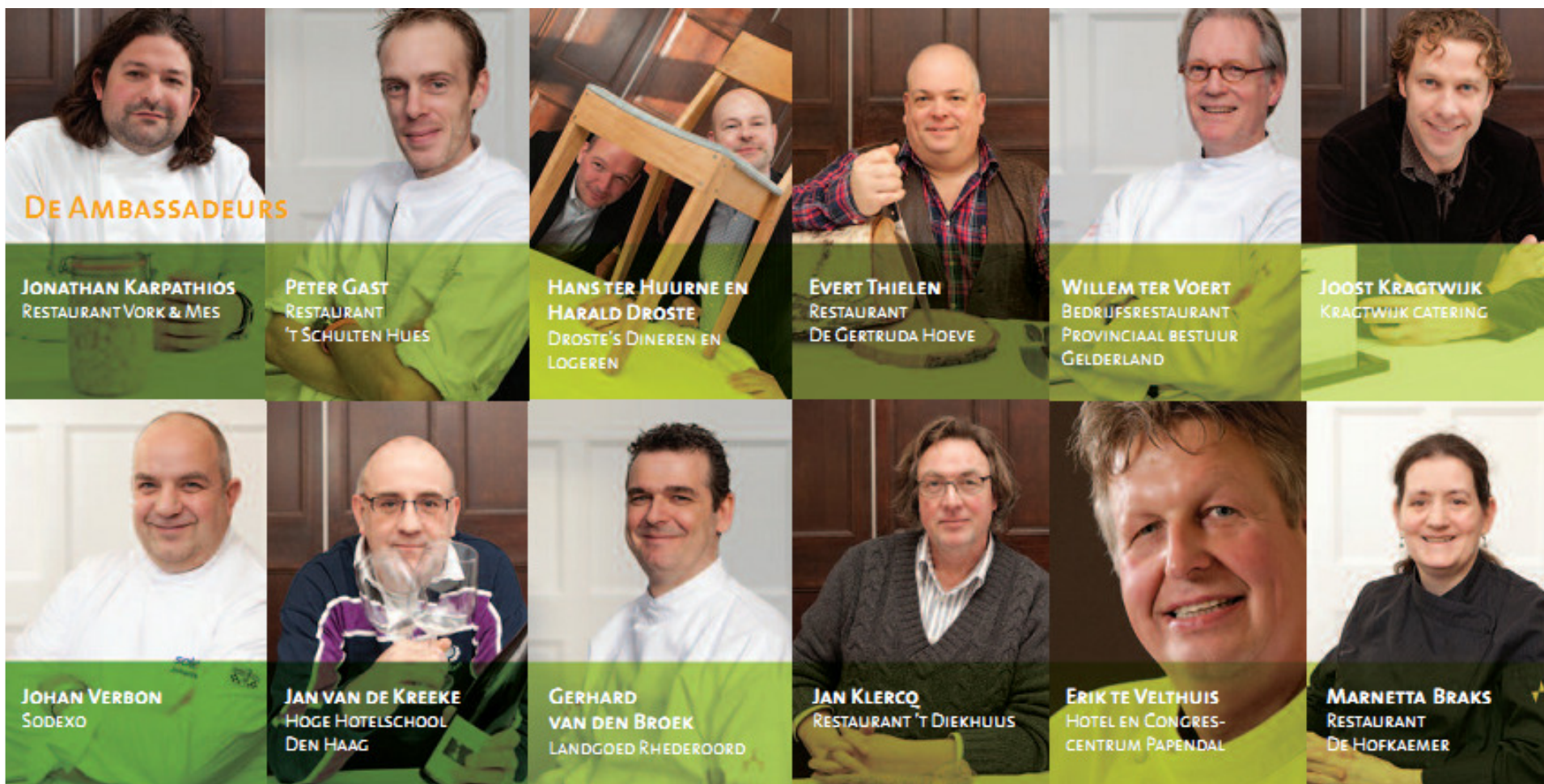
- Characteristics of business – independent or chain etc.
- Organisational structure – who makes decisions about process, who orders food.
- Motivations – staff incentives, customer loyalty, novelty, associations and standards, marketing incentives.
- Timings – when to approach.
- Composition of food waste.

“Phase 2 of the voluntary Courtauld Commitment runs from 2010 to 2012 and requires signatories to reduce food waste by 4%. ”

Parliamentary Sustainable Resource Group



Mobilising consumers cooks, chefs... and consumers







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LOCAL FOOD, LESS WASTE



Goat! – No Waste Dinner





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Fish!





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Share Knowledge





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UK Ambassadors





UK Ambassadors



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Events



UK Ambassadors



Workshops/living labs



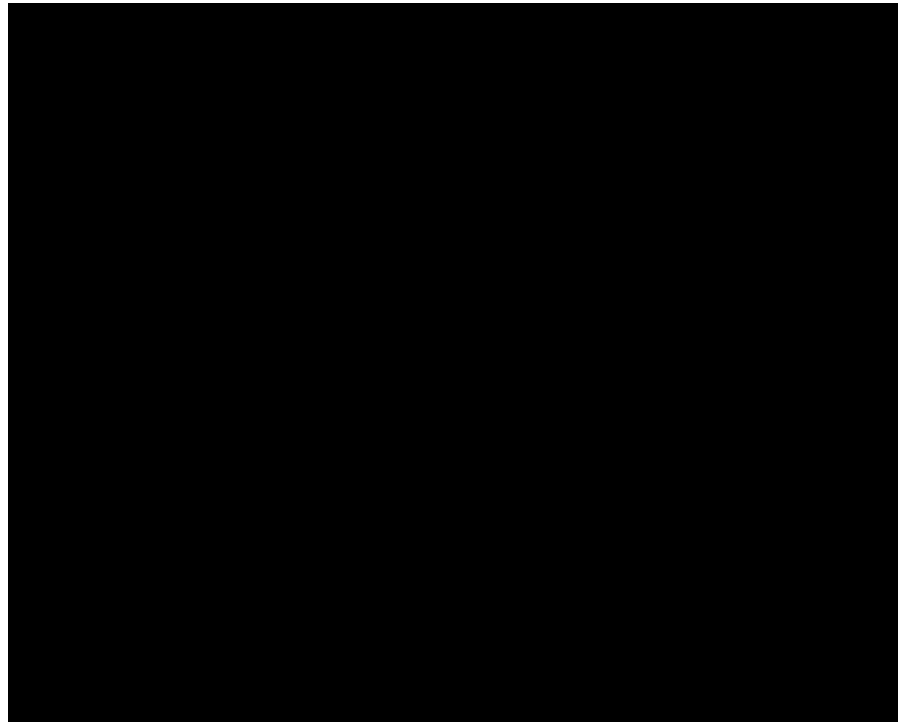


Publications





Media friendly events



Boris Johnson at Feeding the
Five Thousand



Media friendly events



The Peoples Kitchen



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Chef 2 Consumer





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Closing address

by Jean-Louis Robillard
Deputy President
of Nord-Pas de Calais
Regional Council
in charge of food, agriculture,
regionalization and rurality

