



Diagnosis of the generation of food waste in the Basque Autonomous Community

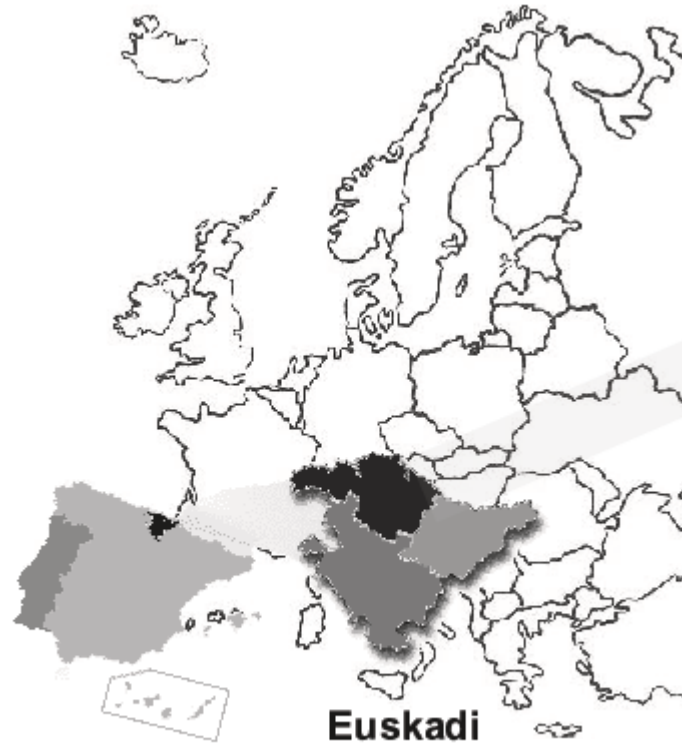


David San Martín ([dsanmartin@azti.es](mailto:dсанmartin@azti.es))

EU PLATFORM ON FOOD LOSSES AND FOOD WASTE

- FOOD LOSS AND WASTE MONITORING SUB-GROUP – meeting (Oct 11th 2023)

Basque Autonomous Community



2,193,199 inhabitants
(4.60 % of Spain)

7,234 km²
(1.43 % of Spain)

Strategy against food waste in the Basque Country

OBJECTIVES:

1. Promote **actions to prevent and reduce food waste** throughout the food production, transformation, supply and consumption chain in the Basque Country.
2. Facilitate the **reuse of food surpluses for human consumption** and the **reevaluation of food surpluses and by-products of food origin for use in animal feed**, always with Food Safety guarantees.
3. Support the **transition towards a Circular Economy model** in the Basque agri-food system.
4. Respond to the **UN Sustainable Development Goal (SDG 12.3)**.



Strategy against food waste in the Basque Country

LINES OF ACTION:

1. QUANTIFICATION of food waste in the different links of the food chain in the Basque Country.
2. AWARENESS-RAISING actions aimed at society and at companies in the Basque agri-food system. www.zerodespilfarro.eus
3. Development of PROTOCOLS for the prevention of food waste and, clarification and definition of standards to guarantee food and legal safety.
4. Promotion of RESEARCH AND INNOVATION activities with local and international entities aimed at reducing food waste.
5. Promotion of INTERLOCUTION AND COLLABORATION between organisations and companies in the agri-food sector. Creation of networks.



Quantification of food waste in the Basque Country

Acts as an **AWARENESS
RAISING** measure



Provides **KEYS** to solutions



Information on the **ORIGIN**
of waste



**INTERLINKED FOOD SYSTEM
DIALOGUE AND COLLABORATION
METHODOLOGICAL EXPERTISE**

Quantification of food waste in the Basque Country

- ✓ One of the first initiatives in the European Union that measures food wastage following the guidelines of the European Commission.
- ✓ One of the first analyses in Spain
- ✓ A study carried out by agents of the Basque food system.

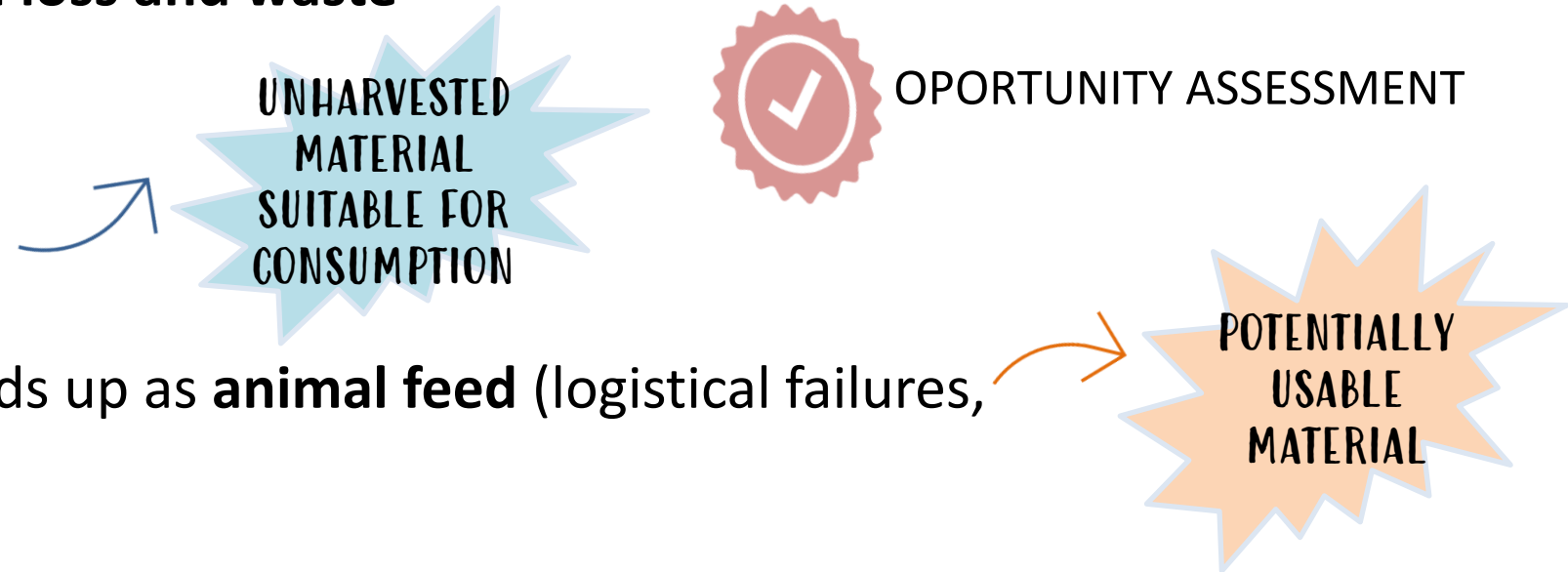


What is measured?

Food waste as is defined in COMMISSION DELEGATED DECISION (EU) 2019/1597:

- ✓ INCLUDED
- **Inedible parts**
 - **Does not distinguish loss and waste**

- ✗ NOT INCLUDED
- **Unharvested plants**
 - **By-products**
 - Human food that ends up as **animal feed** (logistical failures, packaging...)



Where is measured?

According to COMMISSION DELEGATED DECISION (EU) 2019/1597:

- National Classification of Economic Activities (CNAE):

Division: Companies and entities



BY STAGES

What we consider in our ANALYSIS:

- **National Classification of Economic Activities (CNAE)**
- **Technical Economic Orientation** (in the agricultural-livestock sector)



EVEN MORE CONCRETE

How is measured?

According to COMMISSION DELEGATED DECISION (EU) 2019/1597:

ANNEX III

Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement			
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews
Processing and manufacturing				— Coefficients and production statistics. — Waste composition analysis
Retail and other distribution of food			— Waste composition analysis	— Counting/scanning
Restaurants and food services				— Diaries
Households				

How is measured?

According to COMMISSION DELEGATED DECISION (EU) 2019/1597:

Direct measurement (weighing or volumetric assessment)

Use of a measuring device to determine the mass of samples of food waste or fractions of total waste, directly or determined on the basis of volume. It includes measurement of separately collected food waste.

Scanning / Counting

Assessment of the number of items that make up food waste, and use of the result to determine the mass.

Waste composition analysis

Physical separation of food waste from other fractions in order to determine the mass of the fractions sorted out.

Diaries

An individual or group of individuals keeps a record or log of food waste information on a regular basis.

How is measured?

According to COMMISSION DECISION (EU) 2019/1597:

Other methods:

The following methods shall be used when there is no direct (physical) access to food waste or when direct measurement is not feasible:

— Mass balance

Calculation of the amount of food waste on the basis of the mass of inputs and outputs of food into and out of the measured system, and processing and consumption of food within the system.

— Coefficients

Use of previously established food waste coefficients or percentages representative for a food industry sub-sector or for an individual business operator. Such coefficients or percentages shall be established through sampling, data provided by food business operators or by other methods.

RESULTS “PRIMARY PRODUCTION”

Measured according to COMMISSION DECISION (EU) 2019/1597:

ANNEX III

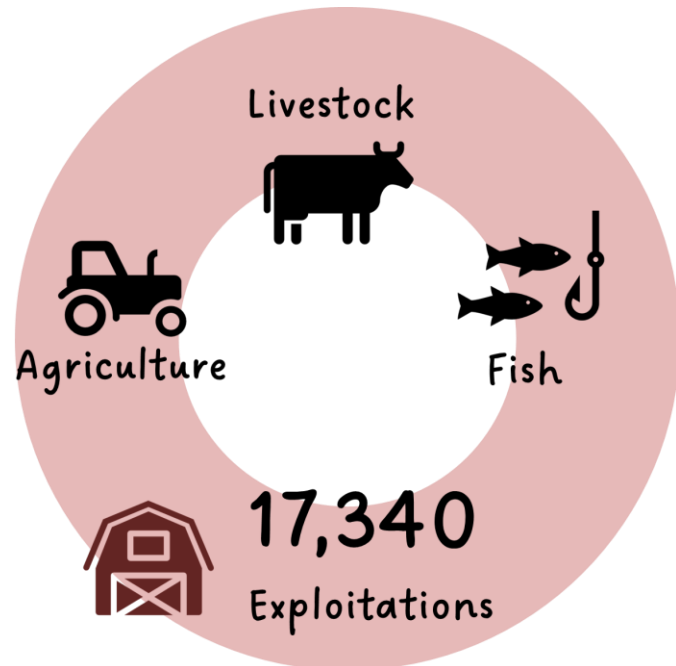
Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement				
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews 100 %	
Processing and manufacturing				— Coefficients and production statistics. — Waste composition analysis	
Retail and other distribution of food			— Waste composition analysis	— Counting/scanning	
Restaurants and food services					— Diaries
Households					

RESULTS “PRIMARY PRODUCTION”

Measured according to COMMISSION DECISION (EU) 2019/1597:



FOOD WASTE

4,670
tons/year



2.13 kg
person/year

- Agriculture: 94.0 %
- Fisheries: 4.4 %
- Livestock: 1.5 %



POTENTIALLY USABLE MATERIAL

53,974
tons/year

RESULTS “PROCESSING AND MANUFACTURING”

Measured according to COMMISSION DECISION (EU) 2019/1597:

ANNEX III

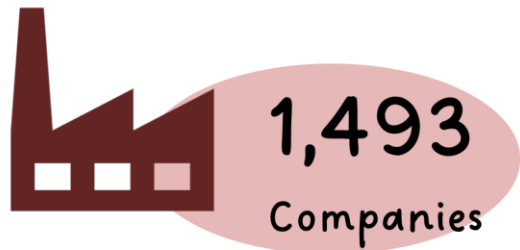
Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement			
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews 100 %
Processing and manufacturing				— Coefficients and production statistics. — Waste composition analysis
Retail and other distribution of food			— Waste composition analysis	— Counting/scanning
Restaurants and food services				— Diaries
Households				

RESULTS “PROCESSING AND MANUFACTURING”

Measured according to COMMISSION DECISION (EU) 2019/1597:



RESULTS “PROCESSING AND MANUFACTURING”

Measured according to COMMISSION DECISION (EU) 2019/1597:

Sector	PUM (t)	PUM (%)	Food Waste (t)	Food Waste (%)
Meat industry	27,037	32.21	1,204	1.43
Fish industry	4,676	10.54	371	0.84
Dairy industry	41,286	12.83	677	0.21
Bread and milling	8,678	5.45	51	0.03
Other foodstuffs	35,406	13.89	5,347	2.10
Beverages	98,321	44.09	70	0.03

Food Waste per capita – 3.53 kg / person in Euskadi

RESULTS “RETAIL AND OTHER DISTRIBUTION FOOD”

Measured according to COMMISSION DECISION (EU) 2019/1597:

ANNEX III

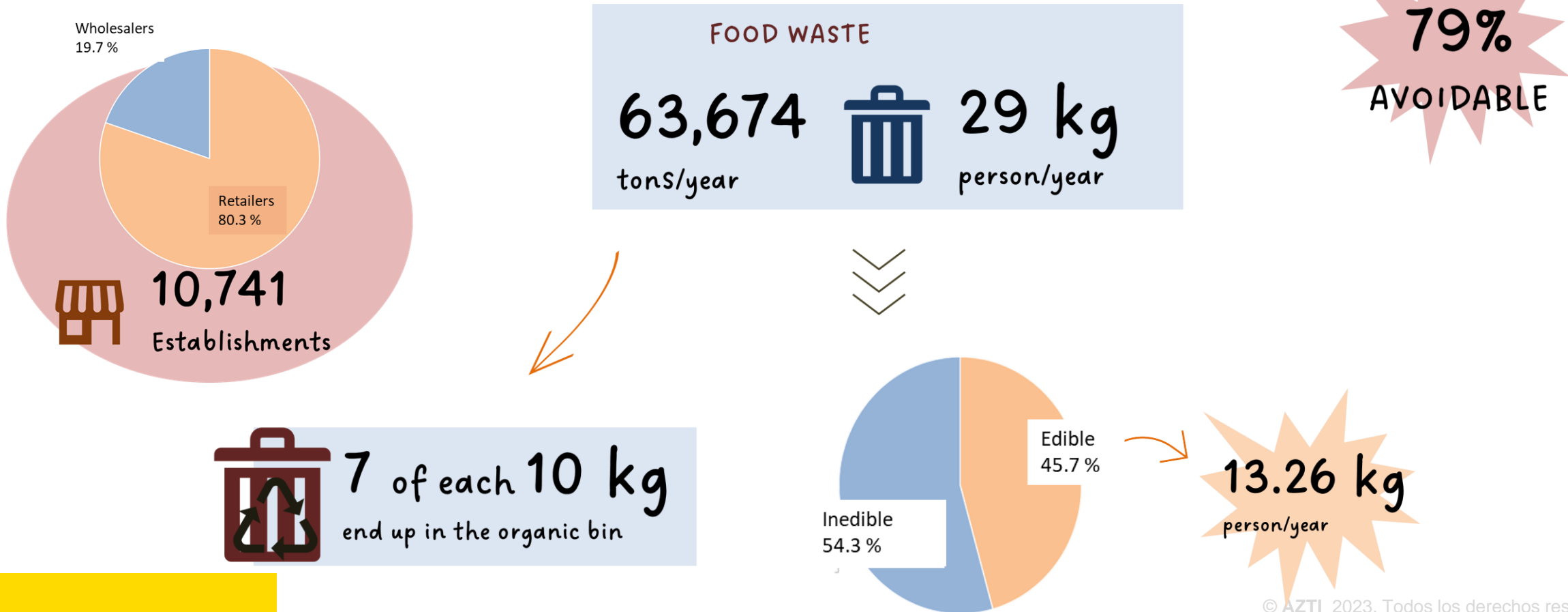
Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement					
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews		
Processing and manufacturing				— Coefficients and production statistics.		
Retail and other distribution of food	45 %	55 %	— Waste composition analysis	— Counting/scanning 55 %		
Restaurants and food services				45 %		— Diaries
Households						

RESULTS “RETAIL AND OTHER DISTRIBUTION FOOD”

Measured according to COMMISSION DECISION (EU) 2019/1597:



RESULTS “RESTAURANTS AND FOOD SERVICES”

Measured according to COMMISSION DECISION (EU) 2019/1597:

ANNEX III

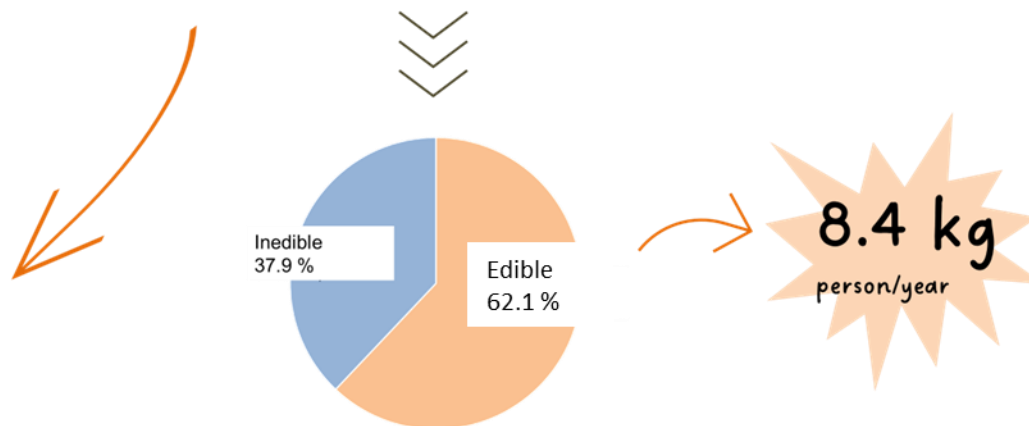
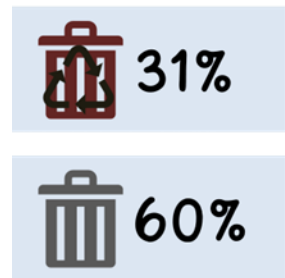
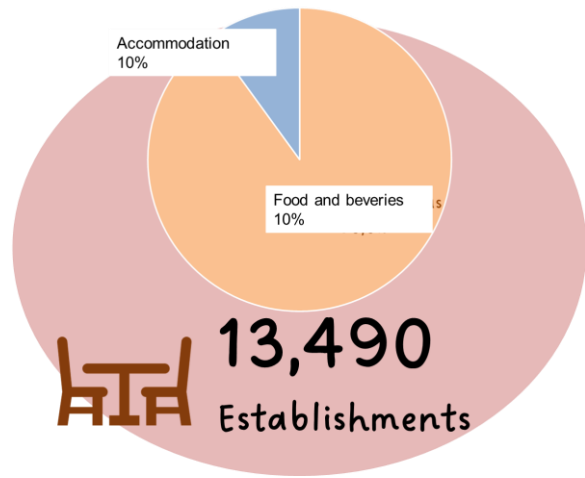
Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement			
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews
Processing and manufacturing				— Coefficients and production statistics.
Retail and other distribution of food				— Waste composition analysis
Restaurants and food services	62 %		62 %	38 %
Households				— Diaries

RESULTS “RESTAURANTS AND FOOD SERVICES”

Measured according to COMMISSION DECISION (EU) 2019/1597:



RESULTS “HOUSEHOLDS”

Measured according to COMMISSION DECISION (EU) 2019/1597:

ANNEX III

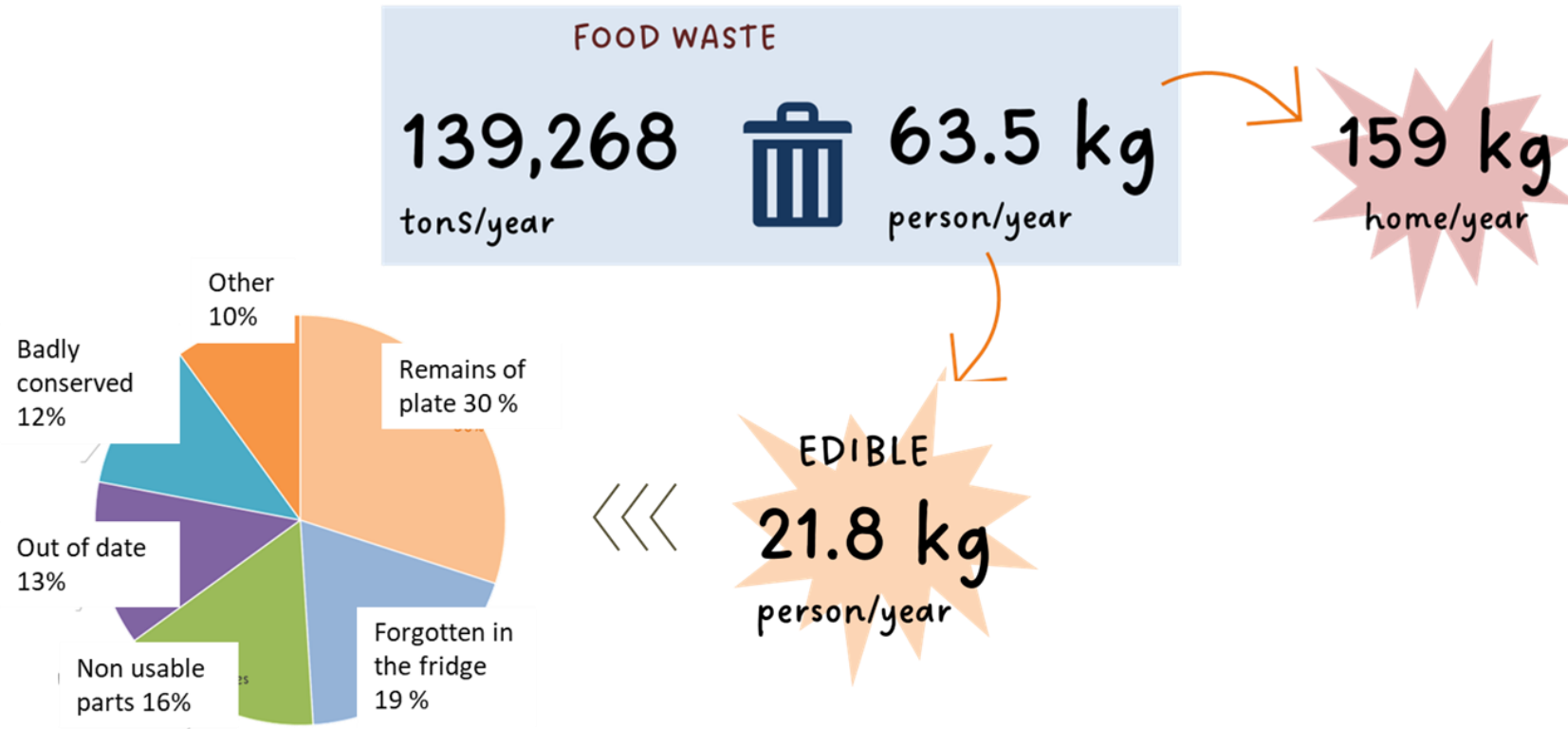
Methodology for the in-depth measurement of food waste

The amount of food waste within a stage of the food supply chain shall be established by measuring food waste generated by a sample of food business operators or households in accordance with any of the following methods or a combination of those methods or any other method equivalent in terms of relevance, representativeness and reliability.

Stage of the food supply chain	Methods of measurement			
Primary production	— Direct measurement	— Mass balance		— Questionnaires and interviews
Processing and manufacturing				— Coefficients and production statistics.
Retail and other distribution of food			— Waste composition analysis	— Counting/scanning
Restaurants and food services				— Diaries
Households	54 %			46 %

RESULTS “HOUSEHOLDS”

Measured according to COMMISSION DECISION (EU) 2019/1597:

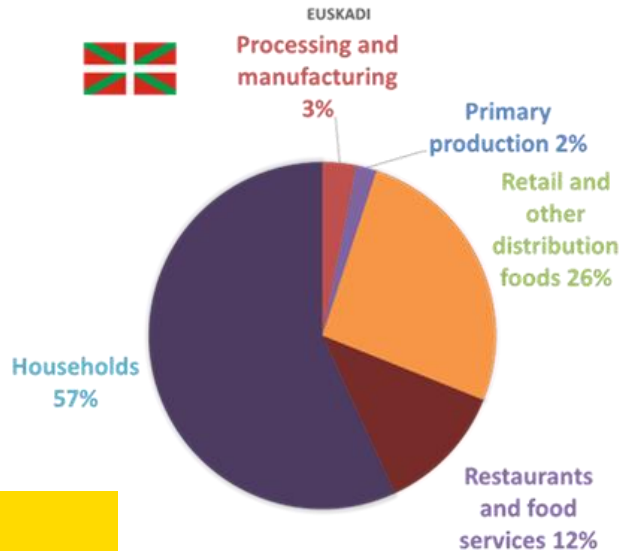


Summary of results



2,193,199

BY SECTORS



THANK YOU

ANY QUESTION?

David San Martín (dsanmartin@azti.es)