INTERNATIONAL FOOD WASTE COALITION

Survey:

Bio-waste Segregation & Collection in the Hospitality & Food Service Sectors

March 2022

Contents:

Executive Summary

Europe generates close to 90 million tons of bio-waste every year. Whilst 60% of this results from food waste, only 50% is recycled, mainly through composting and anaerobic digestion.

To tackle this issue, and to achieve its municipal solid waste recycling objectives, the European Commission has set the target for all bio-waste to be collected separately by 2024. This has already led some member states to anticipate regulatory changes - for example Germany has imposed separate collection since 2015 whilst separate collection of bio-waste will be mandatory in France for all producers generating over 5 tons per year as of 2023.

Against this backdrop, IFWC conducted a survey of over 80 sites and collected data from an additional 1,000 locations in order to build a picture of bio-waste sorting and utilization in the French hospitality & food service sectors (HaFS).

While almost all HaFS sites involved in the survey have a waste sorting policy in place, bio-waste is only segregated completely in less than 20% of cases. This proportion gets higher with large[1] and medium[2] sized sites (30% and 50% respectively) but this still does not meet the upcoming French regulation.

While most waste generated during food preparation is sorted, plate and service waste (over-production) is not usually segregated.

Furthermore, our survey concluded that sites must overcome 3 key challenges in order to increase bio-waste segregation:

- lack of infrastructure (space and containers) in or close to the kitchen
- absence of a bio-waste management contract with a specialized collector
- insufficient people engagement (employees and customers)

Secondary markets and donations to prevent surplus food from being wasted remain under-developed with only 40% of sites leveraging them. Solutions to valorize food waste like animal feed or anaerobic digestion require sites to navigate strict health & safety regulations and organize complex logistical solutions.

[1] sites generating over 5 tons of bio-waste per year
[2] sites generating over 1 ton of bio-waste per year

Europe's Bio-waste Challenge

Europe generates almost 90 million tons of bio-waste each year, 60% of which results from food waste.

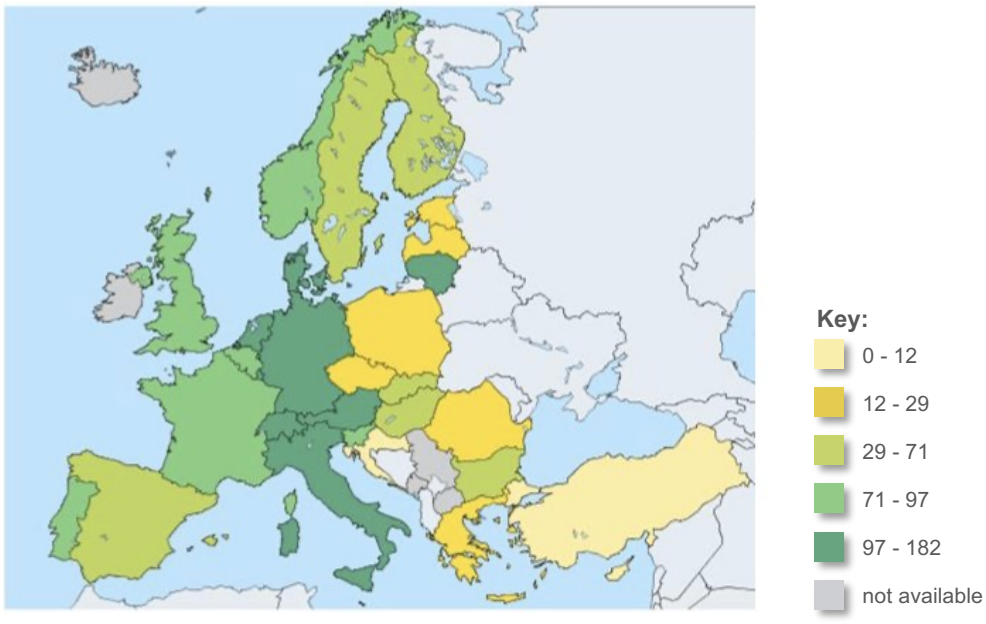
As per the European Food Waste Directive[3], bio-waste is defined as biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants. It does not include forestry or agricultural residues, manure, sewage sludge, or other biodegradable waste such as natural textiles, paper or processed wood. It also excludes those by-products of food production that never become waste.

According to the European Environment Agency[4], bio-waste accounts for 34% of municipal solid waste (MSW) generated in Europe, which translated into 88 million tons in 2017. Food waste accounts for over 60%[5] of all bio-waste, making it the largest contributor.

Less than 50% of bio-waste is recycled in Europe (41.5 million tons in 2019) with recycling rates varying between countries (see map below). There are two main methods available for bio-waste recycling - composting and anaerobic digestion, however recycling remains severely limited by the poor quality of input material, which is often mixed with non-organic material such as plastic.

The European Union and member states have therefore set new regulations to both reduce the amount of organic waste and to force separate collection of bio-waste.

Recycling of bio-waste in Europe in 2017 (kg bio-waste per capita)



[3] https://ec.europa.eu/environment/topics/waste-and-recycling/biodegradable-waste_fr
[4] https://www.eea.europa.eu/highlights/reducing-and-recycling-food-and
[5] https://data.europa.eu/data/datasets/d2ja6lfsx1pw8prkuxpka?locale=en

Tackling the problem through regulation

The Europe Commission's Waste Framework Directive has set ambitious new targets.

To address the problem of bio-waste, the European Commission issued its Waste Framework Directive in 2018[6] which set the following objectives:

- By Dec 31 2023: member states must ensure that bio-waste is either separated and recycled at source or collected separately
- By Dec 31 2023: the Commission will establish a food waste reduction target to be met by 2030
- Starting in 2020: EU Member States are required to measure and report food waste generation annually

In addition to the above, some member states have set their own regulations and objectives:

Germany:

Voted the revised Act on the Circular Economy[7] obligating all waste producers and mandating waste management authorities to collect bio-waste separately as of 1 January 2015.

England:

The Resources and Waste Strategy[8] of 2019 was followed by the Environment Bill[9], which requires the weekly collection of food waste by all households and businesses from 2023.

Belgium:

Has already met the 50% recycling target for bio-waste and has eliminated landfilling of biodegradable waste. Flanders has already introduced the separate collection of bio-waste and the pay-as-you-throw taxation system.

France:

The Grenelle 2[10] (2010) set the obligation of bio-waste sorting and separate collection for businesses generating more than 40 tons per year. This threshold was decreased to 10 tons in 2016 and will be further reduced to 5 tons from January 2023.

[6] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L0851
[7] https://www.gesetze-im-internet.de/krwg/BJNR021210012.html
[8] https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england
[9] https://bills.parliament.uk/bills/2593
[10] https://www.ademe.fr/sites/default/files/assets/documents/51_DGPR_gros_producteurs_biodechets_29-10-2013_DEF_Light.pdf

IFWC Survey

Objectives, methodology and scope.

In anticipation of the new regulations, IFWC and Suez carried out a survey amongst HaFS sites in France.

There were two key objectives :

1. to understand the current situation and levels of bio-waste sorting and collection
2. to identify the challenges and levers to further increase bio-waste segregation

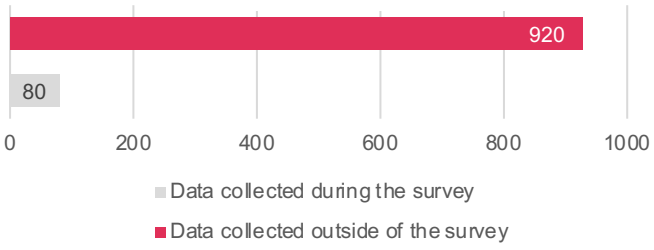
The survey was published online and distributed to IFWC members via an email campaign. It ran for three months from October to December 2021.

A total of 80 sites responded to the survey, with participation split between the hospitality (55%) and food service (45%) sectors.

The survey was further strengthened through partial data collected from an additional 920 sites (all belonging to one IFWC member) to bring our total to 1,000 sites.

Breakdown of Survey Participants:

Data Collection Streams:



The Digital Survey:

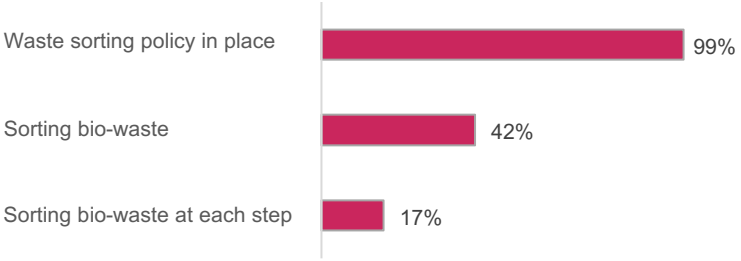
Survey Results: Current Situation

Whilst almost all HaFS sites have a waste sorting policy, bio-waste is sorted at less than 45% of sites and only sorted completely at less than 20% of sites.

From the data collected, 99% of sites said that they have a waste management policy in place which includes the sorting of paper, carboard, plastic, glass and bio-waste.

However only 420 out of 1,000 sites segregate bio-waste at at least one step of the chain (from meal preparation to plate waste).

Moreover, only 170 sites segregate bio-waste at each step of the chain.



Detailed analysis shows that 33% of sites segregate waste at the preparation stage, but less so for plate and service waste (respectively 26% and 25%)

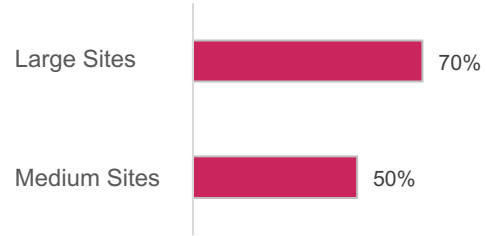
Bio-waste Segregation per Food Stage:

The number of larger sites segregating biowaste is significantly higher than medium sites, but 30% of large sites are still not compliant with new French regulation.

The survey was split between large sites (generating over 5 tons of bio-waste per year) and medium sites (generating over 1 ton of bio-waste per year). Large sites will need to meet new French regulation in 2023, whilst medium sites must meet European regulations in 2024. Our sample was made up of 26 large sites and 50 medium sites.

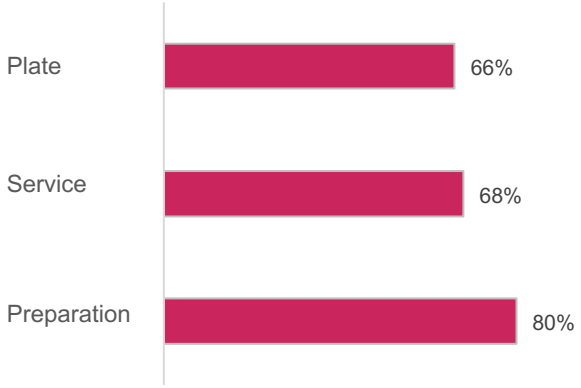
Whilst 70% of large sites are segregating bio-waste at each step, the remaining 30% are only partially collecting it. This proportion falls to 50% when including medium sites.

Complete Bio-waste Segregation:



Closer analysis reveals that most sites (80%) are segregating waste at the food preparation stage, but this falls to 68% for service waste and and 66% for plate waste.

Bio-waste sorting by Food Stage (large & medium sites):



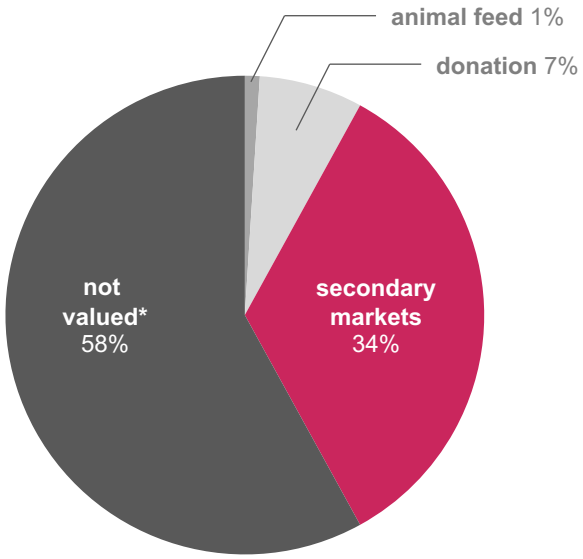
Looking specifically at the problem of over-production, only 42% of sites value service surpluses via donations or secondary markets.

While the main objective is to avoid food waste, There are an increasing number of solutions that help sites to redistribute surplus food before it becomes waste.

However, these solutions require navigation through complex health and safety regulations, demanding full traceability, storage solutions and effective logistics to maintain product freshness. Thus only 42% of food surplus generated by overproduction is redistributed for human consumption.

Within this percentage, the vast majority is either sent to secondary markets through companies such as Too Good To Go, Phenix, Comerso and Eqosphere, or it is donated via associations such as Les Restaurants du Coeur, Le Secours Populaire or La Banque Alimentaire.

How food surpluses are managed:



** other than in compost and bio-gas / energy production*

Survey Results: Key Challenges

The main hurdles to bio-waste sorting revolve around infrastructure, specialist bio-waste collection and people engagement.

Sites reported three key obstacles to improving bio-waste sorting:

1: Infrastructure

insufficient space to store bio-waste (28% of respondents) and a lack of containers (23%)

2: Specialist Collection

the absence of contracts with specialist waste management companies to collect bio-waste

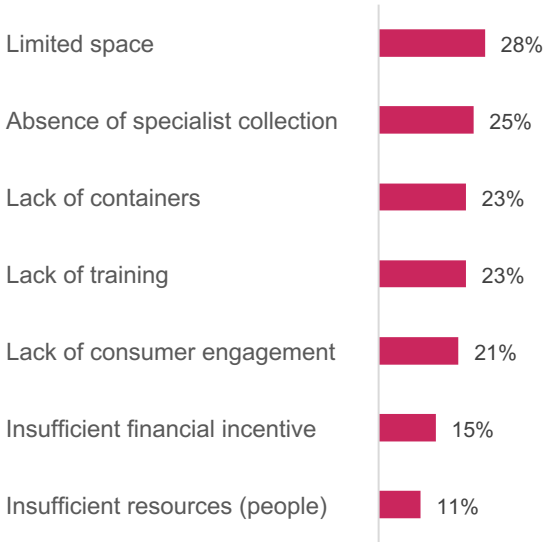
3: People Engagement

lack of people engagement, via both employee training and communication with public

While respondents also mentioned the need for more resources and financial incentives, these were not listed as the most pressing challenges.

Overall, proper organization of bio-waste storage and collection as well as deeper involvement of employees (through training) and customers (through communication campaigns) are the levers to significantly improve bio-waste sorting.

Main Hurdles to Bio-waste Sorting:



Conclusion

The European Union and member states have taken action to reduce food waste and force the segregation of organic waste.

This study highlights that while most of the large HaFS sites have already put in place solutions to sort bio-waste, the vast majority off smaller sites are not ready to face the upcoming 2024 regulations.

Solutions exist to train employees, to improve storage of bio-waste, and to select specialized bio-waste contractors. Moreover, innovative companies continue to develop solutions that enable sites to navigate stringent heath and safety regulations and value food surplus via secondary markets.

With the support of its members, IFWC remains committed to test these solutions, accelerate their adoption and ultimately place Europe at the forefront of bio-waste segregation and valuation.

Acknowledgments

This study was made possible thanks to the full support and collaborative spirit of our members and partners:

Members:

Partners:

Appendices

European Regulation referring to Food Donation

EU Guidance and National Regulations

EU guidance aims to clarify relevant provisions in EU legislation and help to lift barriers to food redistribution within the current EU regulatory framework: EU Guideline on Food Donation 2017[1].

General hygiene requirements to donate food:

- the registration of the establishment to competent authorities
- the application of good hygiene practices
- the implementation of procedures based on Hazard Analysis and Critical Control Point (HACCP) principles

Mapping and analysis of existing regulatory and policy measures impacting food redistribution from EU Member States is available to specifically understand national regulations: Food Redistribution in the EU, 2020[2].

In the HaFS sectors, food donation is limited for food safety reasons, but it is possible to identify and assess opportunities on a case-by-case basis (e.g. cooling meals at the end of service can facilitate food donation). Some Member States and trade organizations have established specific guidelines for the sector.

New Amendments to Facilitate Food Donations published in 2021

- A new chapter on food redistribution that addresses how 'use by' and 'best before' dates allow donation of products under certain conditions: Commission Regulation 2021/382 amending the Annexes to regulation No 852/2004, published 4 March 2021[3].

- Specific hygiene requirements for food of animal origin, freezing of meat at retail would be authorized under certain conditions: Commission Delegated Regulation 2021/1374 amending Annex III to regulation No 853/2004, published 20 August 2021[4].

The sub-group on food donation will support the work of the Commission and members of the EU Platform on FLW to facilitate safe food donation practices. You can access the latest information here: https://ec.europa.eu/food/safety/food-waste/eu-actions-against-food-waste/food-donation_en

[1] https://ec.europa.eu/food/safety/food-waste/eu-actions-against-food-waste/food-donation_en
[2] https://op.europa.eu/en/publication-detail/-/publication/189fa4cd-b755-11ea-bb7a-01aa75ed71a1
[3] https://eur-lex.europa.eu/eli/reg/2004/852/2009-04-20
[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2021.297.01.0001.01.ENG&toc=OJ%3AL%3A2021%3A297%3ATOC

European Regulation referring to Animal Feed

State of the Regulation

The European legislation regarding animal feeding with animal by-products and derived products is described under the regulation EC 1069/2009[1] from October 2009 and amended in June 2019.

All HaFS food waste products fall into Category 3 material which applies the most stringent limitations with regards to its handling and usage.

Thus, it is prohibited to use it for the feeding of farmed animals other than fur animals.

This ban originated during the 2002 foot-and-mouth disease epidemic in the UK, which is thought to have been started by the illegal feeding of uncooked food waste to pigs.

However, a few additional derogations, provided by local authorities, can apply for feeding :

- zoo animals
- circus animals
- reptiles and birds of prey other than zoo or circus animals
- wild animals
- dogs from recognized kennels or packs of hounds
- dogs and cats in shelters
- maggots and worms for fishing bait

Impact of the Ban

From 88 million tons of food waste, an estimated 14 million tons could be processed into non-ruminant feed if we were to change legislation to ensure the safe treatment of such surplus.

Ongoing Initiatives

The European REFRESH[2] (2017) initiative demonstrated that 3 additional measures have the potential to open non ruminant feeding with bio-waste:

1. proper food waste treatment (heat and acidification), processed in specialized licensed plants
2. small additions to official control
3. mixing of conventional and surplus food integration to meet the specific diet requirements for targeted animals

Discussions on these proposals are still ongoing, although no changes to current regulations are yet foreseen.

[1] https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009R1069
[2] https://eu-refresh.org/avoiding-food-waste-through-feeding-surplus-food-omnivorous-non-ruminant-livestock