

Recommendations

for successful biowaste prevention, collection and management

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How to remove biowaste from mixed waste

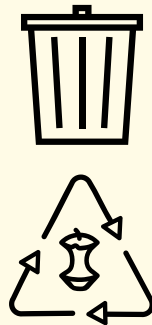
1

Less food waste



2

The separate collection network must be good and comprehensive and/or households have possibility to compost.



3

Sorting activity can be improved by various means:

- Incentives and sanctions
- Advice and information sharing
- Make sorting easier
- New experiments too



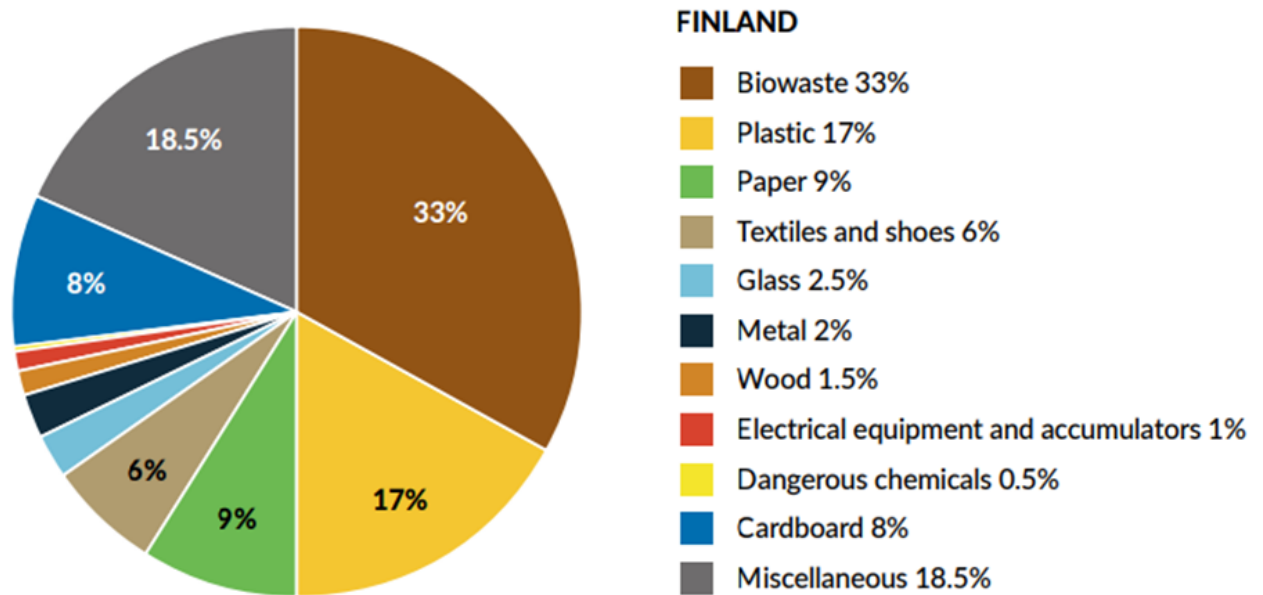
A. Awareness rising for biowaste prevention

B. Extensive biowaste collection network and composting possibilities

C. High sorting activity

A. AWARENESS RISING FOR BIOWASTE PREVENTION

- Most food-based biowaste comes from food preparation.
- About one third of the composition of mixed waste from household is biowaste



*Source: Finnish Solid Waste Association KIVO

Avoidable and unavoidable food waste

- One third of the food ending up in biowaste would still be edible, but it has expired or has simply not been eaten
- Avoidable food waste refers to food that could have been eaten if stored or handled differently
- Unavoidable food waste means, for example: coffee grounds and waste from the food preparation

Preventing food waste at home

- The cause of food waste is that people do not know enough about the subject or do not know when food is spoiled
- Avoidable food waste can be reduced:
 - Planning shopping and meals more accurately
 - By eating foods that may spoil easily first
 - Using freezer for excess food
 - Checking food stocks at home and writing shopping lists
 - To understand the difference between "best before" and "expiration date"
 - Knowledge of how to store food correctly
 - Providing smaller portions
 - **Awareness raising is the most important way to prevent food waste and improve consumer behaviour**
 - **One of the main motivators for reducing food waste is economic reasons**

B. EXTENSIVE BIOWASTE COLLECTION NETWORK AND COMPOSTING POSSIBILITIES

Separate collection of biowaste in Finland

- In Finland, there is an obligation to collect paper, cardboard, glass, metal, plastic and biowaste separately on the basis of property-specific sorting requirements. The Government Decree on Landfills prohibits the landfilling of organic waste from January 2016.
 - Only waste with a concentration of organic matter of up to 10% can be landfilled
- As of 7/2022, biowaste is collected separately in urban area in properties with at least 5 apartments

- Similar requirements for non-residential properties for biowaste, small metal waste and packaging waste from July 2022.
- Residents of detached houses usually only collect mixed waste, but many properties often have their own composter.
- The separate collection of biowaste will be extended to all properties in urban area with more than 10,000 inhabitants by July 2024 at the latest.

C. HIGH SORTING ACTIVITY

Incentives and sanctions

- Making waste amounts and prices visible
 - Waste amounts in properties
 - Transparent information and pricing
 - Information of the higher price for mixed waste
 - Weight-based pricing (PAYT)
- Challenge competitions for schools / companies / municipalities to reduce the amount of waste
- Linking peer support, social pressure or even sanctions to speed up sorting

Facilitating sorting and collection

- Multi-bin and block collection – collection closer and easier at a lower price.
- Uniform sorting
 - Use of waste symbols
 - Same symbol for waste containers and products

Finnish examples:

Densely populated areas:

Circwaste subproject in Kangas, city of Jyväskylä

- The waste management system in Kangas area in the city of Jyväskylä is based on regional deep collection. Deep collection containers are placed in smart places in the area so that no one's route to the waste disposal point is too long [Circwaste - Kankaan vanhan paperitehdasalueen älykkäät jätehuoltoratkaisut | Jyväskylä.fi \(jyvaskyla.fi\)](#)
- The lids of the waste containers have an electronic lock through which the opening of the waste containers can be monitored.
- With the help of the locking system, various statistics can be compiled on visits to waste disposal points. The data can be used to examine visits to containers of different waste types by waste point and sorting activity at different times
- Experiments have been carried out together with the residents, utilising data-based communication, apartment-specific waste data and gamification methods.
- Each bin is locked. The locations of the waste disposal points and their filling rates can be seen on the map. The lid of the waste container opens by displaying the key against the lock reader and holding it there for a couple of seconds.
- Electronic locking collects information on how often each waste container is opened. The data can be used to compile statistics, such as the distribution of different waste fractions per waste point and the difference between different days of the week and the cycle of the year

Sparsely populated areas:

WasteLess Karelias project

- The WasteLess Karelias project developed waste sorting in rural villages in the North Karelia in 2018–2022 <https://kareliacbc.fi/fi/projects/wasteless-karelias>
- Two target villages: Timanttikylät in the municipality of Juuka and Mekrijärvi in the municipality of Ilomantsi.
 - The villages improved waste-related infrastructure and organised village evenings, events and clean-up campaigns, and the villagers worked to develop ways to promote

sorting.

- Awareness raising, cooperation with residents and improvement of waste management infrastructure improved waste sorting and reduced the amount of mixed waste in North Karelia villages
 - Especially in the Timanttikylät, residents started to develop sorting themselves.
- The project showed that residents' participation and interest in environmental issues also leads to concrete results.
 - Amount of mixed waste decreased
 - Waste composting increased especially in Timanttikylät
 - Paper and cardboard no longer end up in mixed waste
 - Share of people sorting plastic increased significantly
- The market influences where different waste fractions should be processed, e.g. biowaste is treated close to the source (heavy, high transport costs)

In addition, to improve sorting and recycling, residents of the area suggested:

- Diversification of sorting points
- Raising awareness of the recycling and using of waste points (plastics)
- Improving the user-friendliness of the collection containers
- Littering control
- Circular hazardous waste collection service
- Incentive mechanisms for sorting, the level of waste charges, the quality of sorted waste and general littering were also mentioned

Further reading:

- [Current Situation in Biowaste Management and Improvement Recommendations in Estonia, Lithuania, Poland, and Finland, Background report – Ecochange Oy](#)
- [Municipal waste management in Finland by Suomen ympäristökeskus - Finnish Environment Institute - Finlands miljöcentral - Issuu](#)
- [CircBrief: Nutrient recycling is an essential part of a sustainable food system 4/2023 \(Issuu\)](#)

Nutrient self sufficiency and security of supply can both be promoted by recycling domestic biomasses effectively, turning them into recycled fertilizer products and using them in farming
- [CircBrief: Sustainable energy production from biogas 3/2023 \(Issuu\)](#)

Locally produced biogas strengthens regional economies, reduces climate emissions and improves security of supply.