

Overview of Food Rescue project results

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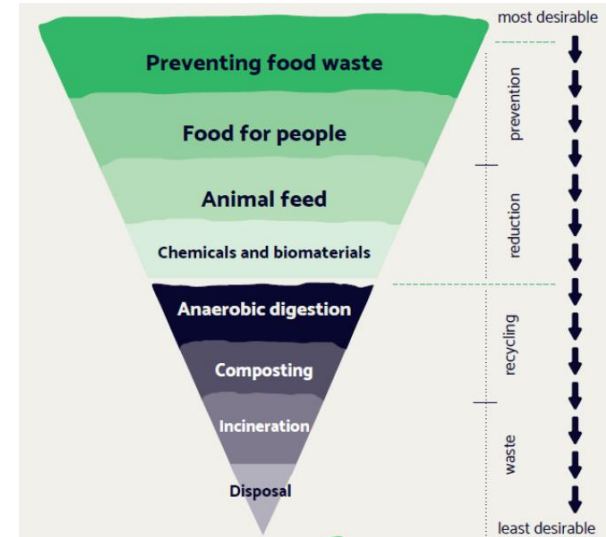
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The project

- Collaboration between the Dutch Embassy in Tallinn and WUR as part of their FLW strategy.
- Other projects already started in Estonia to gain more attention to the topic of food rescue.
- Purpose is to detect opportunities for food saving or side activities.
- Food rescue audits as inspiration for companies to have a look at their processes.

Goal

- Aim is to give two Estonian food companies (from food production till and including retail) the opportunity to gain insight in their food resource use efficiency.
- Quantification of their processes and side streams
- Identifying opportunities for FLW prevention, reduction and/or valorisation.



<https://www.circularfoodcenter.com/en/>

Methodology

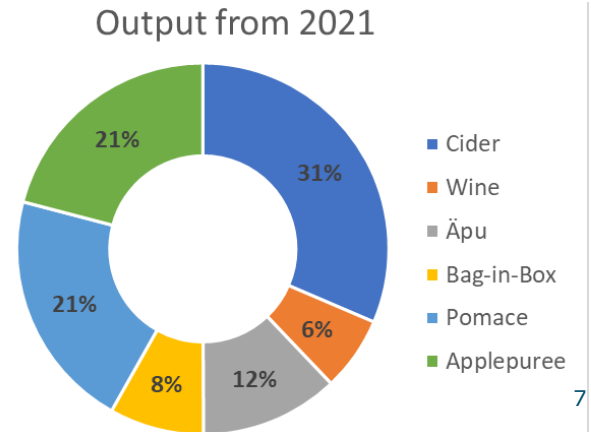
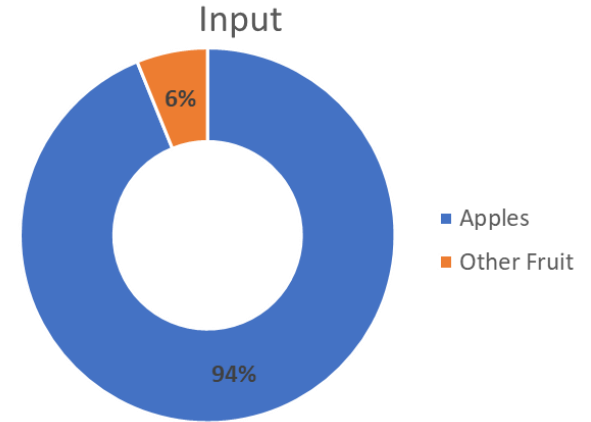
- Determining the scope for the food rescue audit.
- Identifying all processes for the company for the scoped products.
- Defining the side streams and their destinations for the different processes.
- Quantifying all side streams based on company data.
- Finding possibilities for food rescuing.
- Reporting and disseminating the results.

Companies and scope

- 2 companies took part in the Food Rescue Audits.
- Food processor - Siidrikoda
 - Scope: Main raw products that arrive at their processing facility.
 - Process apples and other fruits into products like apple cider.
- Retailer – COOP Eesti
 - Scope: All food products that arrive at their warehouses or retail stores.
 - 2 warehouses and 3 retail stores were included.

Results: apple processor

- Inputs contain apples and other fruits.
- Pressing is the main activity where side streams occur.
- Side stream includes pomace.
- From 2021 apple puree will be a new product made from part of the pomace.



Results: apple processor

Possibilities for valorisation: Keep food for human consumption.

- Apple brandy or 'calvados'.
 - Dutch brand known that made apple brandy from side streams.
- Baking ingredients.
 - Semi finished products for industry.
 - Specialities like biscuits and bars with apple flavour.
- Apple fiber for consumers
 - To add in shakes, smoothies, juice of yogurt.

Results: apple processor

Possibilities for valorisation: Food to feed and other products.

- Animal feed (and petfood).
 - Organic feed for bovines and pigs.
 - Feed specialities like healthy horse treats.
- Biorefinery.
 - Fiber, pectin, molasses, ethanol, anti-oxidants.
 - Fiber: Paper or leather enhanced with apple fiber.
 - Anti-oxidants: anti-oxidants in apple may have a possible positive effect on the shelf-life of processed meat.

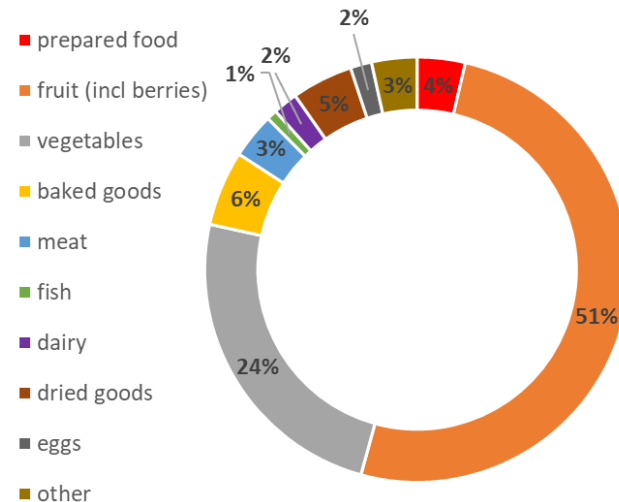


Source photo: <https://equifirst.eu/en/horse-treats>

Results: retailer

- Input contains all type of products arriving at the warehouse or retailer shop.
- Unsold and exceeding expiration date is the main reason of side streams.
- Side streams include all type of products, but mainly fruits and vegetables.
- Already implemented several measures to reduce the amount of side streams,
 - like planning and forecasting, and
 - discounting food products.

Total waste stream divided into product groups (100% total)



Results: retailer

Possibilities for prevention.

- Good monitoring of stock and have a good ordering system. To reduce waste often the best strategy is smaller orders and more frequent deliveries.
- Eliminate flaws in the cold chain. Make sure products are chilled during the whole supply chain. Standing some hours in a warm environment can affect a product to become wasted.
- Introduce dry misting to keep vegetables fresh. This is a refined atomization of water so that vegetables stay fresh.
- Donation foodbank

Results: retailer

Possibilities for prevention.

- Use of platforms.
 - To Good To Go: A platform where shops can sell 'surprise' boxes of (left-over) food at the end of the day for a cheap price.
 - No food wasted: A platform where customers can find products that reach the end of the labelling date in their local shops.
- Additional promotion.
 - 'Wonky' vegetables: Supermarkets sell and promote consuming fresh 'deformed' fruits and vegetables.
 - 'Waste shelf': A special shelf at supermarket where you can find all discounted products for that day.



Source photo: <https://sportvoedingscoach.eu/supermarkten-wordt-wakker-en-verkoop-buitenbeentjes/>

Results: retailer

Possibilities for valorisation.

- Large-scale processing into new food products.
 - External processors that process ugly and low quality vegetables into soup and sauces. Products are sold in the supermarkets.
 - Internal facility to cook with leftover products → make bread, banana bread, soups and sauces.
 - Restaurant that prepares meals and products from leftover food from distribution centres.

Results: retailer

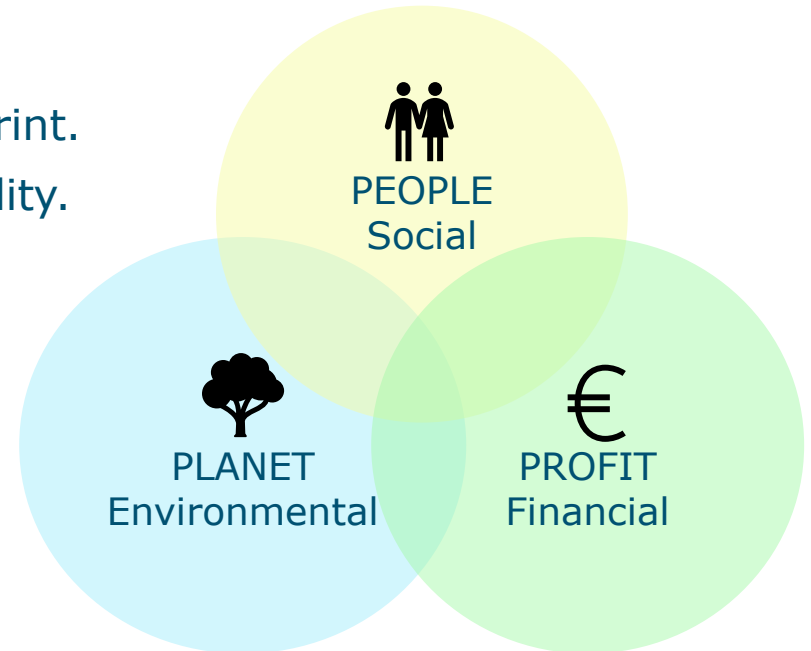
Possibilities for valorisation.

- Small-scale external processing start-ups.
 - Day-old bread is collected and used to make grilled cheese sandwich, garlic bread, crostini, crackers and croutons.
 - Leftover bread or leftover potato is processed into beer.
- Animal feed.
 - Collect 'old' bread and valorise it to chicken feed.



Conclusion

- Food waste prevention and reduction:
 - Increase economic profit.
 - Reduce the environmental footprint.
 - Meet corporate social responsibility.



Thank you for your attention!


In collaboration with Siidrikoda
and COOP Eesti.

Partner institute: Stockholm
Environment Institute

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To explore
the potential
of nature to
improve the
quality of life