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# Food Waste Collection and Anaerobic Digestion System for Biogas and Biofertilizer

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# Description

- **Problem addressed** – Collection and recycling of household food waste to be recycled to Biogas and Biofertilizer at the regional plant
- **Context where the practice was introduced** – To separate food waste from other household waste with coordinated collection
- **Objective** – as from January 1, 2024, all the Municipalities households are separating food waste on mandatory basis.



Collected  
food waste  
annually

930 tons

Home  
Composting  
annually

28,8 tons

# Implementation

- **Timescale** – started during 2012 and implemented between 2012-2014
- **Resources needed**
  - Vehicles for the collection of household waste – Two-compartment loaders
  - The system is managed by the Municipality's infrastructure company Söderhamn Nära, in charge of the municipalities water supply, heat/electricity, IT and waste management
- **Actors involved** – Söderhamn Nära, EkoGas, municipalities households



# Evidence of success

- **Results achieved** – 81% of all households are today using “the brown bin”, meaning 19% are not yet separating their food waste. Aim is to reach 100% from 2024.
- **Users/ beneficiaries** – EkoGas gets more material to recycle, without increasing total amount of food waste, due to higher grade of correctly sorted material.

Aim  
100%  
by 2024



# The Anaerobic System at EkoGas

- Food waste is being processed at the regional plant into biogas and biofertilizer.
- The biogas is then upgraded to vehicle fuel.
- The biofertilizer is replacing mineral fertilizers for local farmers,
- Both are then used within the region.
- We get residue (digestate) that is only used as building soil or incinerated today.

Total collected food waste annually

18 483 tons

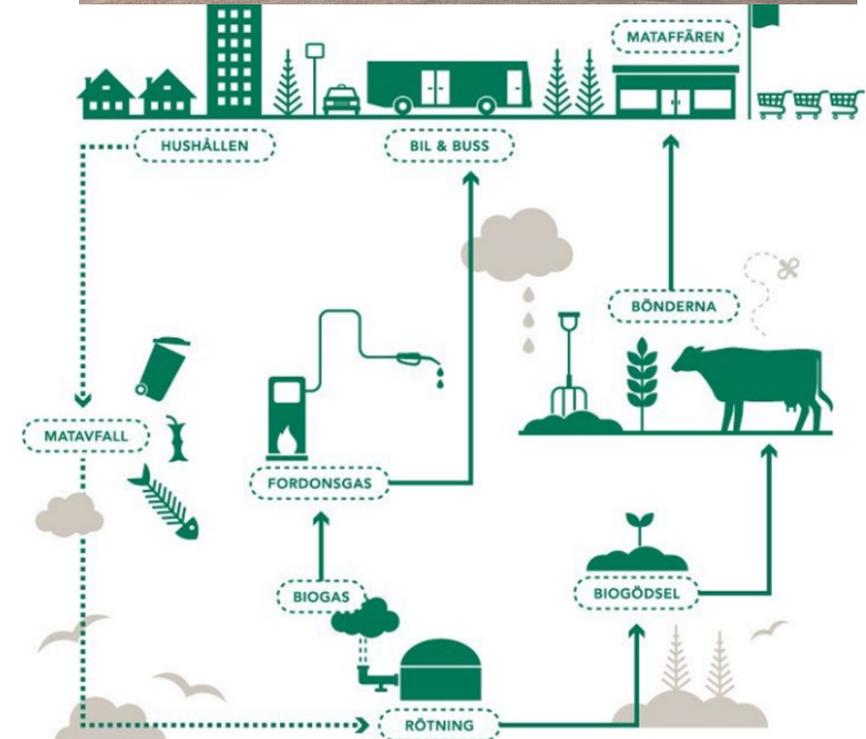
Produced Biogas Energy

Raw Gas  
23 GWh

Vehicle Gas  
18 GWh

Produced Biofertilizer

15 408 tons



# Lessons learnt

- **Positive**
  - The system is already in place and is now going to expand.
  - A change in behavior has already been seen.
  - Citizens more aware of how much food is thrown away.
  - Less food waste is going in regular garbage and more into recycling.
- **Negative**
  - *Still 19% of households are not active.*
  - We get residue (digestate) that is only used as building soil or incinerated today. (not pure enough)
- **Challenge**
  - Change the behavior.
  - To keep the food waste pure enough from plastic.
  - Households must be better at sorting.
  - Finding a more efficient way of cleaning the material on site.
  - Increase the collection through higher grade of correct separation, not through more food waste.
  - Refine the residue to produce biosoil that can be sold to the public.



December  
2023

100%  
active

96%  
purity  
today

98% target

# Actions

- Short film – local comedians/actors
- Implementation of new law
- Information campaigns
- Measures for behavior change
- Education



**Time for  
questions**



# Thank you!

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