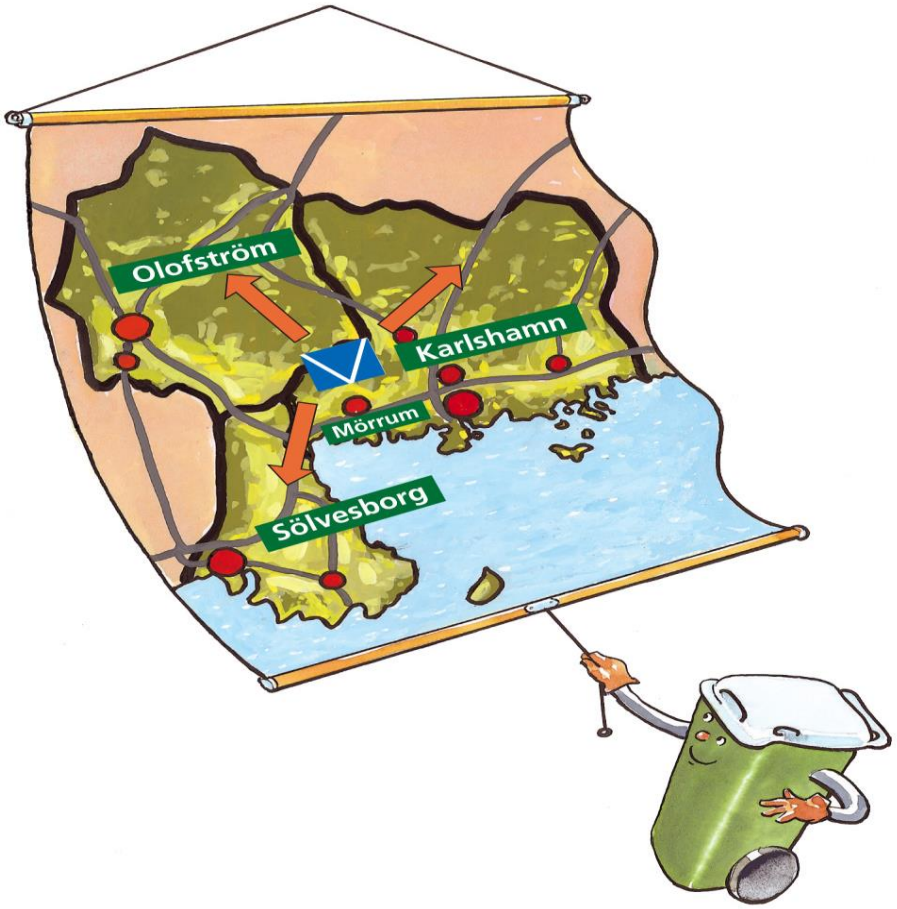
Dry fermentation of household food waste – Västblekinge Miljö AB



Robert Lundgren

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- Municipal owned company responsible for the coordination of waste management in the municipals
- Biological treatment of household food waste by dry fermentation
- Eisenmann dry fermentation plant built in 2012 including pretreatment
- Biogas upgrading with water scrubbing to veichle gas quality
- All veichle gas is sold to EON who distributes the gas
- All waste collection veichles runs on veichle gas

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Dry fermentation plant

- Capacity: 20 000 ton/year, investment: 42 million SEK
- 2 digesters of 800m3/digester
- Food waste gas yield: 240 m3 rawgas/ton, 61% CH4
- Process:

- Originally termophlic 55 degrees, mesophilic operation is currently under evaluation
- 27 days HRT at full load
- Need of additive iron to reduce H2S in the raw gas
- The food waste substrate require additive of trace elements such as cobolt, molybdenum and selenium to control VFA and reach a stable full load
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Pretreatment

- MEWA crusher – capacity 9 ton/h
- Starscreen sieve to separate lightweight materials e.g. plastics and foil but also bigger particle size materials from the substrate
- Reject starscreen: 15 %
- Energyconsumption: 8 kWh/ton food waste
- Substrate goes by conveyer bands to the digesters feeding system

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Upgrading

- Upgrading capacity: 2 plants with a total of 700m3 rawgas/h
- Greenlane Kanuka 300m3 rawgas/h, built in 2012,
- Malmberg GRBAS 400m3 rawgas/h, built in 2014

- Veichle gas quality 98% CH_4, 2% CO_2
- Carbon filter for cleaning the effluent gas from H_2S
- Upgraded gas is delivered to EONs station where it´s pressurized from 6 up to 270 bar.

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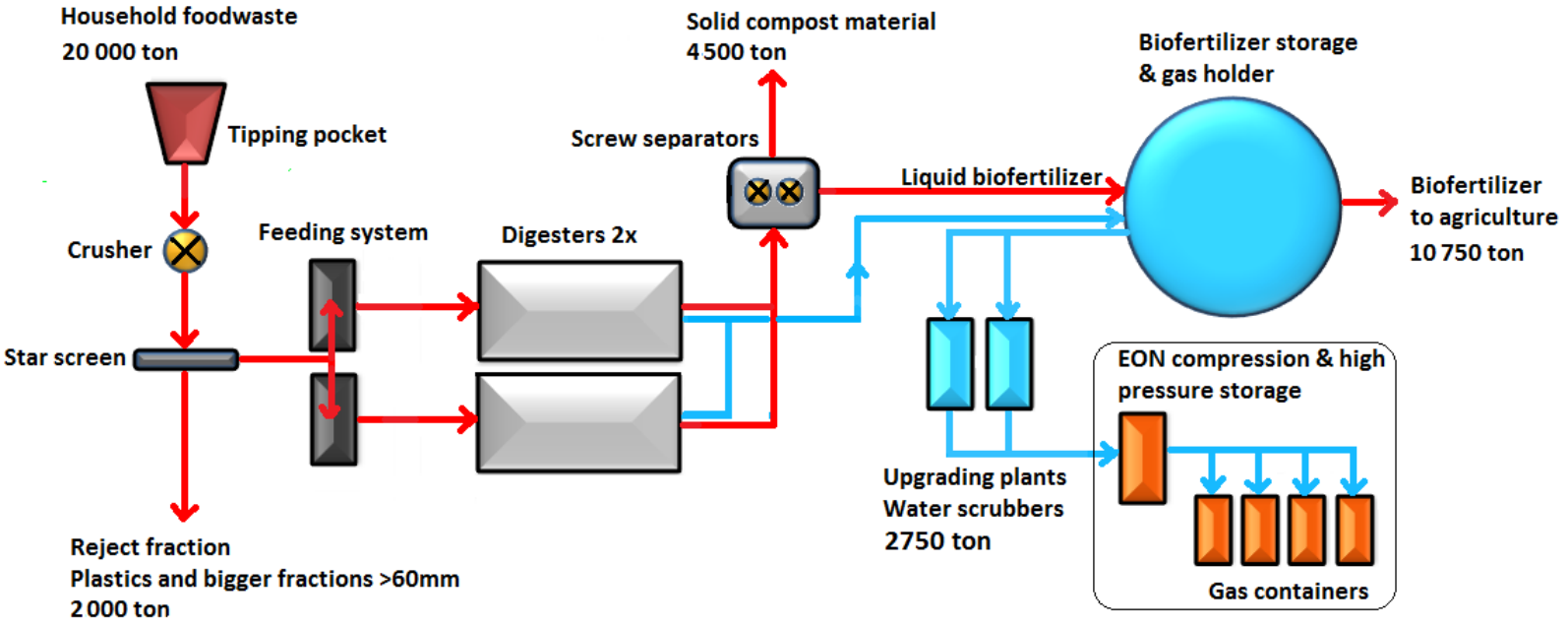

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