Telaketju
Future steps of postconsumer textile refining in Finland

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Lounais-Suomen Jätehuolto Oy (LSJH)

17 owner municipalities, 417,000 inhabitants

- Turnover € 26 million, personnel 85
  - Fees decided by joined Board -> no tax money used
  - Purchased external services ~ 60%
  - Services provided in cooperation with over 700 companies

- Main tasks:
  - Waste management for residential and public sector
  - Waste reception, utilisation and treatment
  - Hazardous waste from households and agriculture
  - Waste transport arranged by the municipality
  - Advice on waste

- Subsidiary companies Lounavoima Oy and Kiertomaa Oy
- Associate company Ekopartnerit

4 waste treatment centers
8 waste sorting stations
Municipal solid waste in Finland 2002-2030 (Tpa)

Source: Information 1975–2013 (Statistics Finland), Forecast 2015–2030 (FSWA)

Waste volume 1975 1,200,000 Tpa
Annual increase 1975–2015: n. 2.3 %

Forecast for annual increase 1.0 %

Total waste amount 2013 was 98 million Tpa
Municipal waste 2015 was 2,7 million Tpa ~ 500 kg/inh.
Recycling 50 % → 60 % → 70%?

Waste export has increased more than expected
Municipal waste for export if recycling is not growing?

CHP = district heat and electricity with over 90 % efficiency
WASTE IS A BIOFUEL
Public waste management companies are pioneers in the climate change prevention and circular economy. Waste treatment centers are circular economy platforms. 98% of municipal waste is utilised as materials and energy. Textile is the only high value fraction in mixed municipal waste. Household waste management.
Background for textile recycling projects

- Studies
  - Finnish Environment Institute SYKE-TEXJÄTE” project
  - Topinpuisto (Topi UrbanMine) - LSJ H’s Circular Economy park in Turku area
  - “Textile 2.0” textile recycling pilot -Learning by doing
  - Download Green growth in Nordic regions: 50 ways to make it happen - Nordregio

- A common aim to get rid of uncontrolled exports of textile waste to third countries
- Public waste management companies interest for joined textile recycling
- 70,000 Tpa of (2.6% of MSW) textile waste in Finland and 350,000 Tpa of textile waste in the Nordic countries
- Collection ≠ recycling, recycling system is missing in Finland → Telaketju cooperation
- Finland is the leading country globally on forest industry and cellulose chemistry
Public waste management a forerunner – WHY?

PUBLIC WASTE MANAGEMENT COMPANIES
• Are responsible for residual waste – also textile waste
• Are socially responsible
• Accomplishe waste hierarchy and waste prevention
• Are innovative partners, pioneers and circular economy platforms

KEY THOUGHTS
• Waste stream management
  • Requirement for separate collection of textile waste in 2025
  • Quality recycling and contaminants in control – less pseudo-recycling
  • New reuse and recycling solutions for textiles are of interest to consumers -REPUTATION
• National and international cooperation
  • between public waste management / research / industries
Poistotekstiili lounaisessa Suomessa 2017
Post-consumer textiles in Southwest Finland 2017

Varastossa 30 %
Stored

Ratkaisu löydetty 31 %
Solution found

Hyödynnetty energiana
Energy recovery 39 %
New investments in textile processing and technology

LSJH got two noticeable financial funding agreements at May 2018

1) Ministry of Economic Affairs and Employment of Finland supports the first pilot factory to process end-of-life textile
   - 27 Finnish public waste management companies are co-funding the project

2) Regional Council of Southwest Finland supports the market analysis and piloting IR identification on end-of-life textiles

New projects will be done in close co-operation with Finnish Telaketju-network
First stage of Processing plant pilot

2018 - Preliminary study and background preparations
2019-2020 Pilot plant and extension for LSJH pilot projects in Telaketju
- Extension of the collection area in Finland → 2 000 Tpa
- Reuse and recycling target 30-50% - the rest to energy
- Buildings for rent in Turku region / new hall in Topinpuisto / other place?
- Development of treatment line and processing plant
- Increase of quantities → 5 000 Tpa?
- Solutions for the next stages
Next possible stages for Processing plant pilot

STAGE 2 in 2021-2023?
A “full-scale” processing plant for waste management and domestic needs
• reuse and recycling targets more than 50% - the rest to energy
• choice of location and implementation model - port connections?
• Involvement of a private partner (Innovation Partnership?)
• 5,000 to 20,000 Tpa →?

STAGE 3 2023 →
• Provision of Services to Sweden (Stockholm) and the Baltic Sea Region
• In Scandinavia, only 1-2 industrial scale refining textile processing plants are needed
• 20 000 to 100 000 Tpa →? INDUSTRIAL SCALE
"A WILD IDEA" - TEXTILE WASTE PROCESSING PLANT IN THE SHIP?
Thank you!

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