

Waste management in southwest Finland and main focuses of R&D

Tuomas Alijoki, project coordinator

Lounais-Suomen Jätehuolto (LSJH)

Municipal waste management company in 17 municipalities in South-Western Finland

More than 415 000 citizens in the area

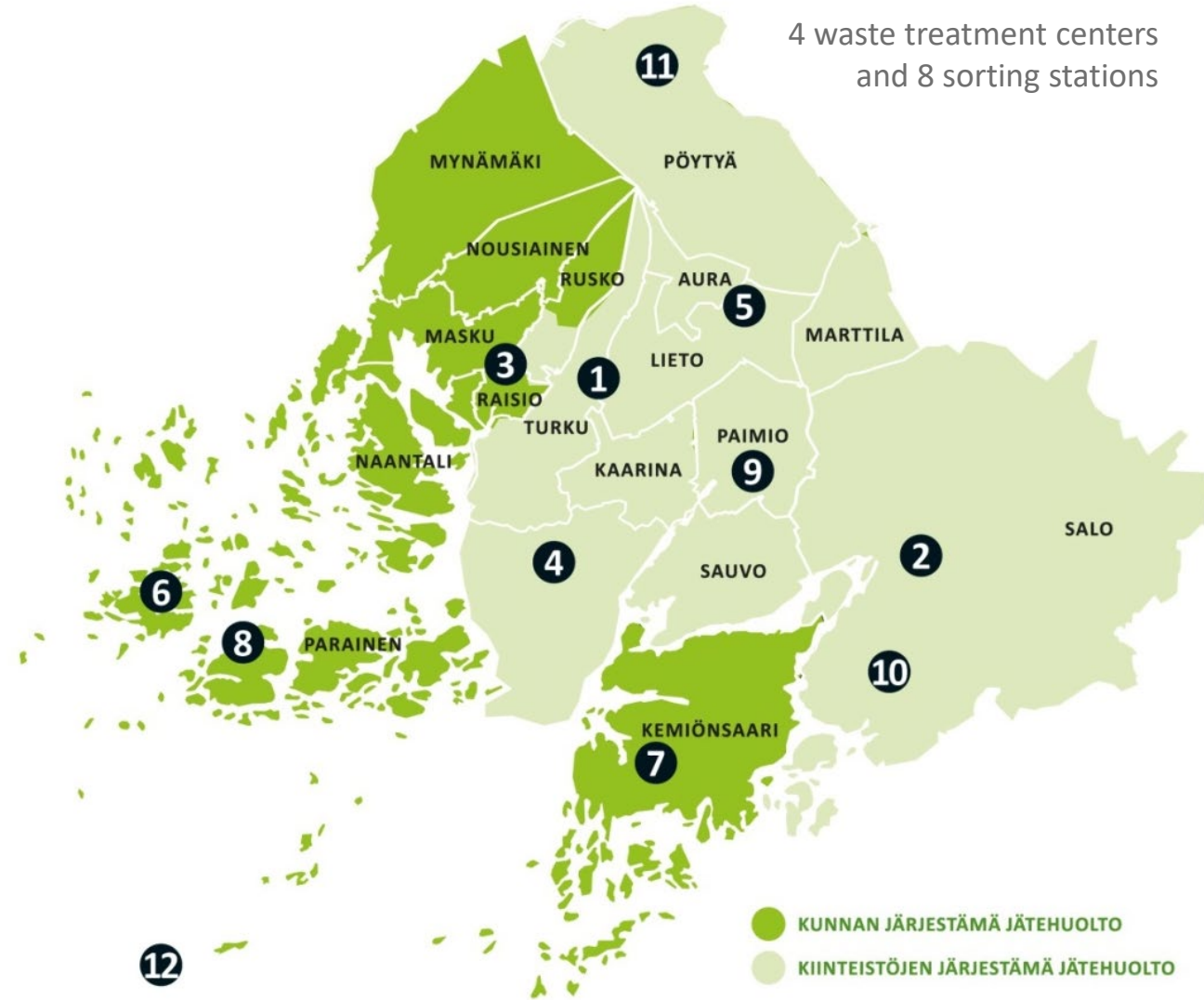
Turnover about 28 mil. €

- Operations funded by waste management and service payments which decided by the municipal waste management board – **no funding by taxes!**
- Our staff is about ~85 persons

Ownership in Ekopartnerit Turku Oy, 2012

Partly owns Lounavoima Oy, 2018

Affiliate company Kiertomaa Oy, 2017



Our waste centers receive up to 350 000 unrecyclable bags of waste
- every single weekday.

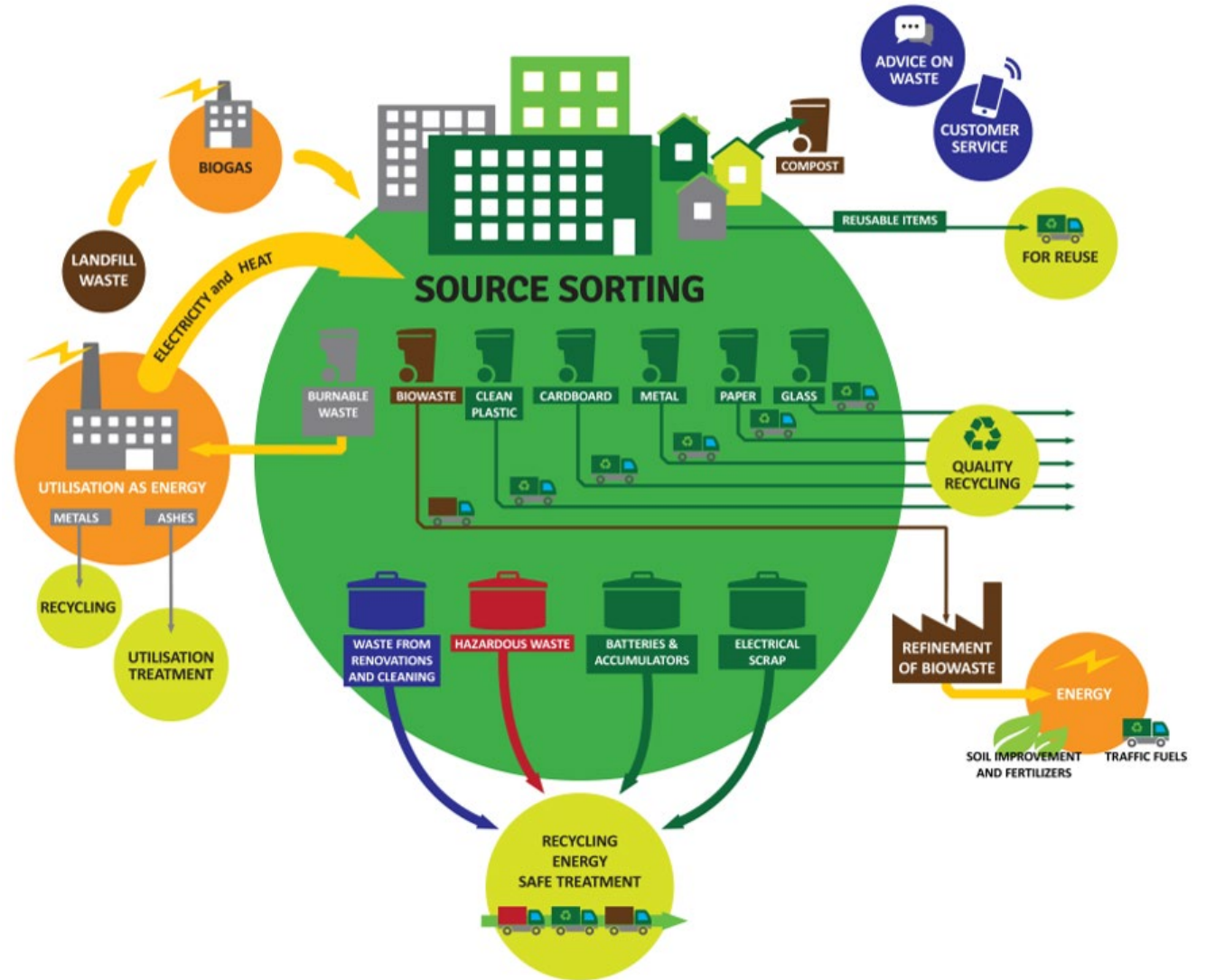
~91 000 tonnes / year.



Waste and material flows are in the center of circular economy.

Waste hierarchy!

- Prevention
- Reuse
- Recycle
- Energy recovery
- Electricity and heat
- Safely to the landfill



WASTE MANAGEMENT BOARD

- Instructions and guidelines

PROPERTY MANAGER

- Waste bins
- Joins the waste collection system

MUNICIPAL WASTE MANAGEMENT

- Reception
- Utilization
- Advice on waste

PRODUCERS

- Producers responsibility

MUNICIPALITY

- Control

EMPLOYEE/ CITIZEN

- Sorting

PRIVATE WASTE MANAGEMENT COMPANIES

- Waste management for companies
- Transport
- Additional services

From landfills to circular economy hubs

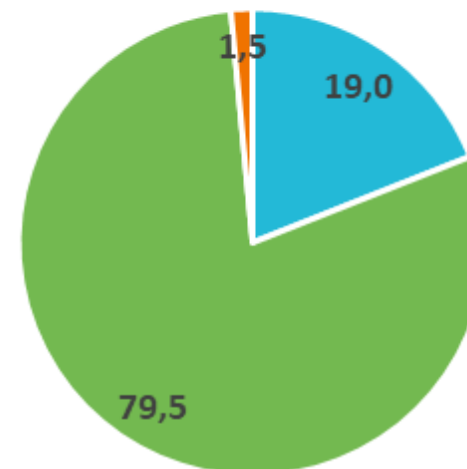
98 % of waste produced in our area is utilized:

79,5 % as energy

19 % as material

1,5 % to landfill

Yhdyskuntajätteen käsittely % 2018



- Yhdyskuntajätteestä materiaalihyödyntämiseen
- Yhdyskuntajätteestä energiahyödyntämiseen
- Yhdyskuntajätteestä kaatopaikalle

Waste to energy Incineration plant to be built in Salo

- Lounavoima Oy
- Capacity 120 000 t per year
- Uses unrecyclable municipal waste as a fuel
- Will save over 4 million euros in waste management costs annually

- 3/2019 building starts
- 1/2021 first incineration
- 6/2021 plant is ready



<https://www.lounavoima.fi/>

<https://www.lsjh.fi/fi/yritys-ja-ymparisto/ekovoimalaitos-kierratyskelvottomista-roskista-lahienergiaa/>

R&D in LSJH

Our team started in september 2018

- 5 employees
- expertise of whole staff trough projects
- Cooperation with local universities

Internal projects t. ex.

- Waste tracking and statistics
- Waste software development coordination
- Developing digital channels in customer services

Post consumer textile waste refining

- As a part of Telaketju -network
- Textile recycling pilot plant in Turku, starting in 2020
- Material identification technology and market analyses

Topinpuisto circular economy hub and network

- Developing circular economy hub area and cooperation network between companies
- Implementation in 2020





Post consumer textile waste refining in Finland





First stage - A pilot plant in Turku region

STAGE 1 in 2018-2020

2018- Preliminary study and background preparations

2019- Pilot plant and extension for LSJH pilot projects in Telaketju

- Extension of the collection area in Finland → 1 000 Tpa
 - Increase of quantities up to 5 000 Tpa?
- Reuse and recycling target 30-50% - the rest to energy
- Development of collecting, sorting and refining pilot plant
 - Finding solutions for the next stages
- Costs-based cooperation agreements between LSJH and other waste management companies
- Pilot plant operation is aimed to start in spring of 2020





Next possible stages for textile refinement plant



LOUNAIS-SUOMEN
JÄTEHUOLTO

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 partners (innovation partnership?)
- 5,000 to 20,000 Tpa →?

STAGE 3 2023? →

- cooperation and provision of services to Sweden, Norway and the Baltic Sea Region
- industrial scale up to 100 000 Tpa



telaketju



Topinpuisto

CIRCULAR ECONOMY NETWORK

What Is Topinpuisto?

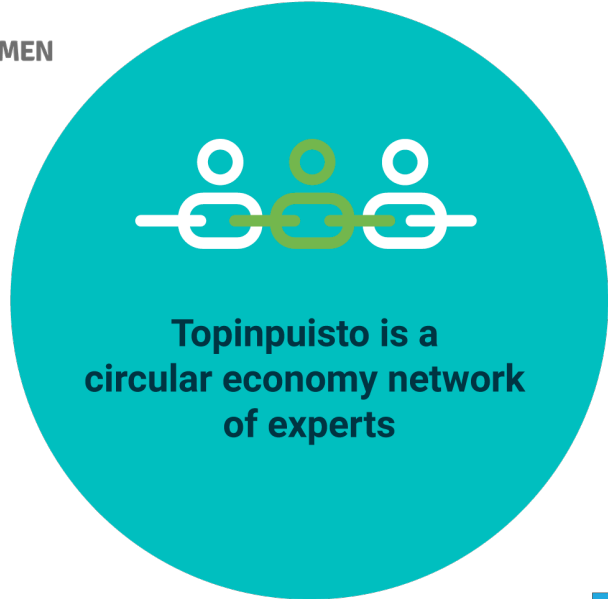
Topinpuisto is an internationally attractive learning environment and network of achievers promoting circular economy.

- “Topinpuisto” refers to the physical area, the partner areas, and the network of achievers linked to the operations of the area.
- The Topinpuisto area is formed around the utilisation of central material, water, and energy flows, as well as the development of new services.
- The network of Topinpuisto achievers comprises various circular economy achievers, companies, start-up companies, business accelerators, research entities, and public operators.
- The ideas and projects of the network operators can birth new pilots either jointly or separately.

Topinpuisto

Circular economy hub





- Waste management companies, universities, future studies, city and regional authorities, business development organisations, co- working spaces, start up hatcheries etc.
- Efficient public – private cooperation

UUDISTUVA JA LAAJENEVA TOPINPUISTO



In practice

- Web pages, flyers, social media, videos and other marketing material 2017 ->
- New concepts for services and products 2017->
- Piloting visitor activities 2017->
- Topinpuisto joint strategy 2018
- Optimization of logistics in the circular economy hub 2018 ->
- Material library 2019
- Plans for Circular economy visitor's centre 2019
- "Circular economy sparring" service design 2019
- Concept model for the Topinpuisto circular economy network operator 2019
 - Implementation 2020 ->





Circular economy visitor's centre pilots @ Kahmari

pilot exhibitions- service model design - target group participation and interviews
digital / virtual / augmented reality experiments

Circhubs (6Aika: Tulevaisuuden kiertotalouskeskukset–project)

www.cirhubs.fi Twitter: @circhubs LinkedIn: 6Aika: Circhubs

Coordinator: Business Tampere

Partners: Lounais-Suomen jätehuolto
Turun ammattikorkeakoulu
HSY Helsingin seudun ympäristöpalvelut
Kiertokaari
Tampereen teknillinen yliopisto
Ekokumppanit
Suomen ympäristökeskus

Schedule: 1.5.2017-30.9.2019

Budget: 2 mil. €

6Aika



Uudenmaan liitto
Nylands förbund



Vipuvoimaa
EU:lta
2014–2020

Topinpuisto
KIERTOTALOUSVERKOSTO



Topinpuisto - Turku



EC03 – Tampere, Nokia & Ylöjärvi



Hiedanranta - Tampere



Ekomo - Espoo



Ruskonniitty - Oulu



Tarastenjärvi - Tampere



Topinpuisto

www.topinpuisto.fi  @topinpuisto  Topinpuisto

tuomas.aliyoki@lsjh.fi | +358 40 867 0195

