



LCA4Regions

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Using biowaste in anaerobic digestion and the Finnish Biogas Programme

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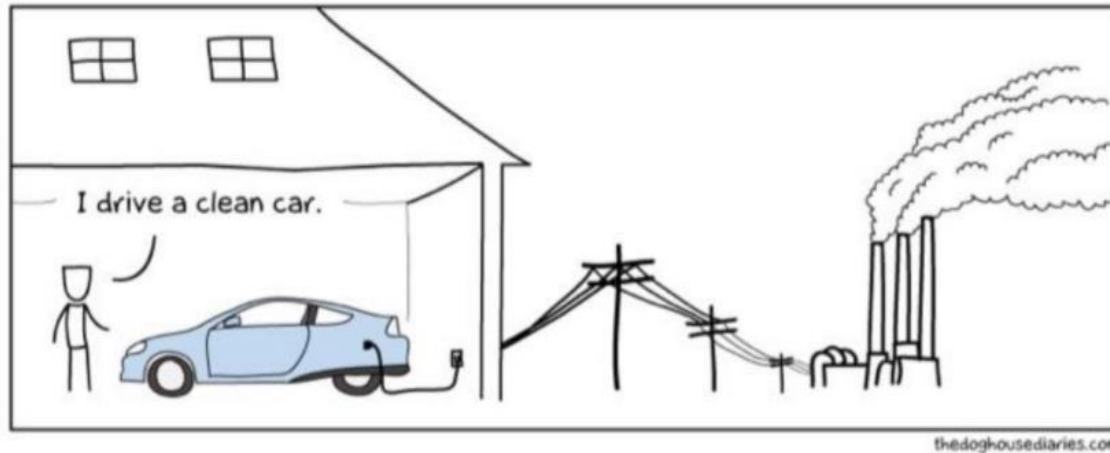
GP: Processing alternatives of biodegradable waste – anaerobic digestion, energy & biofuel

Timing: June 2014 - January 2016

Resp. organization: Finnish Environment Institute

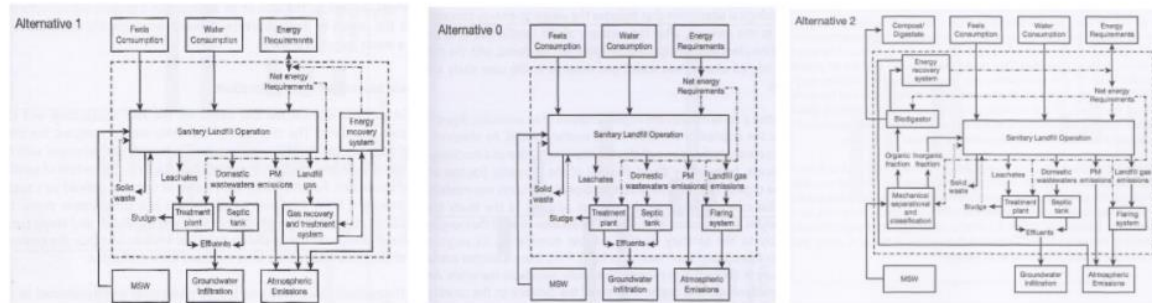
Life cycle thinking improves sustainability of regional actions

Real life is filled with contradictions

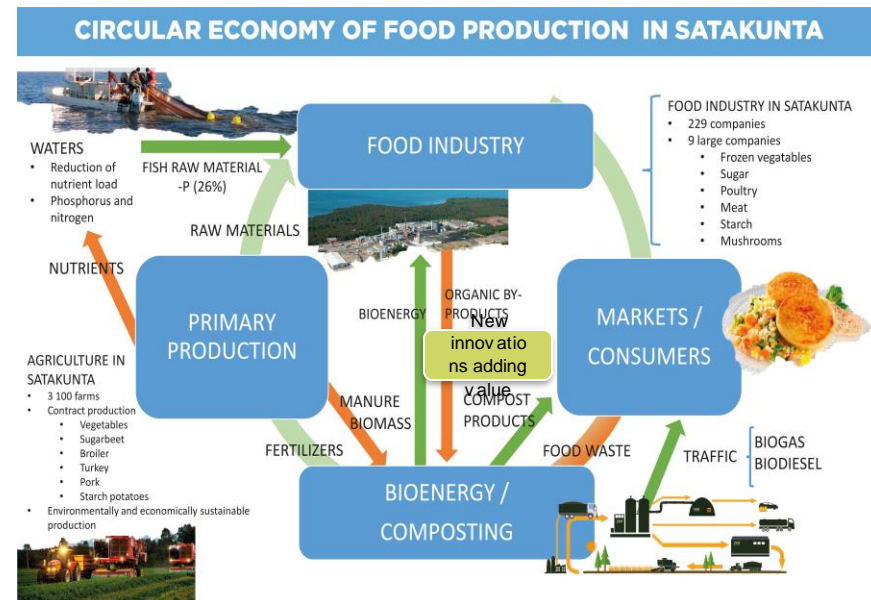


LCA - Comparative impact assessment

3 waste management options compared – landfill, incineration, recycling



GP: Processing alternatives of biodegradable waste – anaerobic digestion, energy & biofuel



GP: How life cycle analysis (LCA) can compare alternative technologies or processes to provide input to a regional waste management policy/plan.

Climate change, acidification and eutrophication were included in the analysis relating to the environmental impact.

Openly available datasets (eg. Biomass Atlas) utilised

Results:

The use of processing alternatives outweigh the impact of the processing, excl. the effects of acidification.

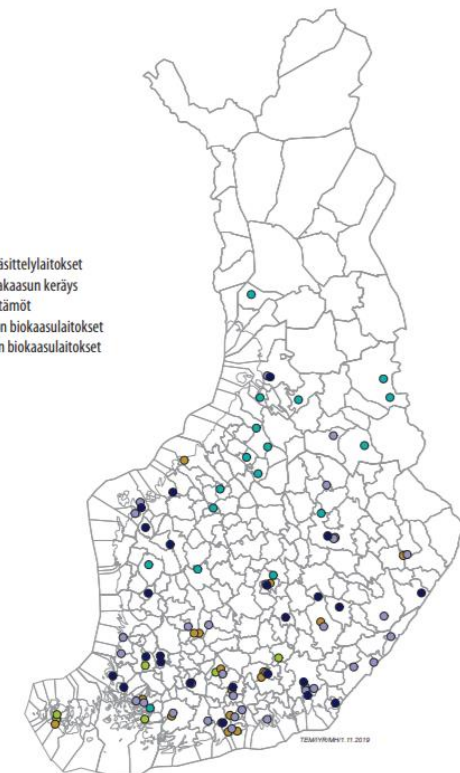
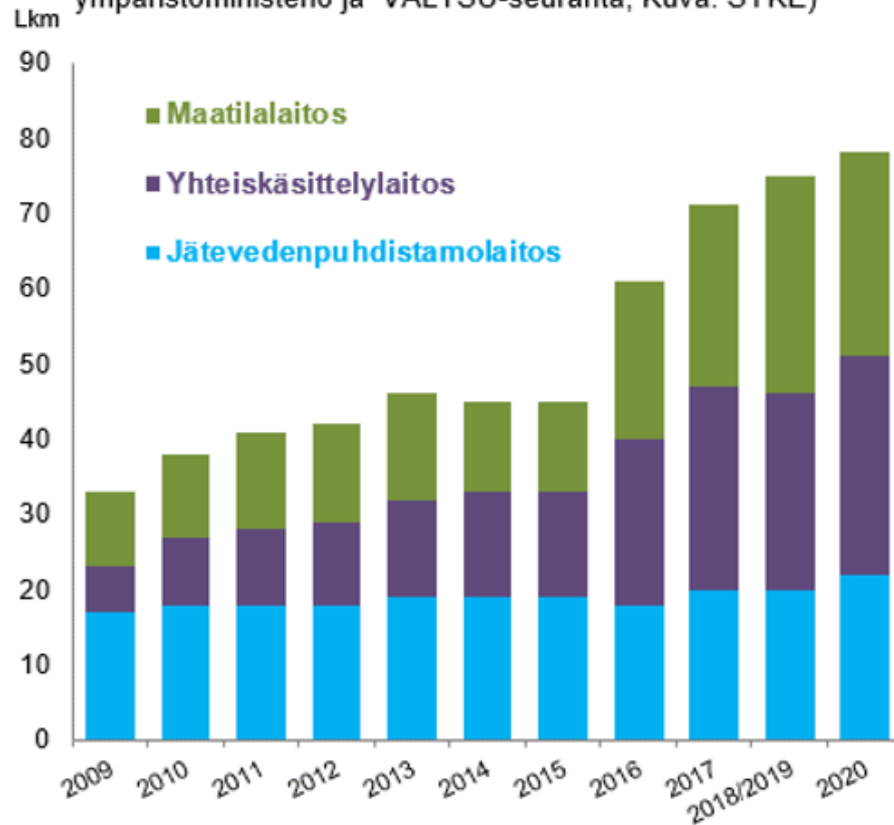
Burning generates the most significant eutrophication effects due to sulphur dioxide emissions.

- The carbon credits received for the replacement of the method of energy production significantly vary depending on what the energy to be replaced is presumed to be
- The practice thoroughly analysed LCA of biowaste processing options. In terms of direct environmental impact, anaerobic digestion is the best, burning the second and the worst production of biofuel.
- Carefully conducted, reliable study is widely utilised. The government programme 2019 includes strong support for anaerobic digestion. New plants in region utilise biowaste.
- The outcome of this practise has been utilised in Finnish waste act preparation, and has aided in launching the preparation of Finnish national biogas programme, and in the regional level the promotion of bio and circular economy initiatives and policies.

Development of amount of biogas plants in Finland

Toiminnassa olevien biokaasulaitosten määrän kehitys

(Lähteet: Suomen biokaasulaitosrekisteri, YLVA-tietojärjestelmä, ympäristöministeriö ja VALTSU-seuranta; Kuva: SYKE)



Lähde: Suomen Biokierto ja Biokaasu ry.

National Biogas Programme

Ministry of Economic Affairs and Employment, Ministry of Agriculture and Forestry, Ministry of Transport and Communications, Ministry of the Environment, and Ministry of Finance

October 2019 Working Group established, Report January 2020

Published report will be used as the Biogas Programme – stepwise progress, ongoing

Report

- **describes the current state of the biogas sector and the related policy instruments.**
- **provides the working group's opinion of the most significant obstacles and barriers in the biogas sector.**
- **the most significant challenges arise from the poor profitability of biogas operations. Steps could be taken to improve profitability:**
 - lowering the investment costs and costs arising from agricultural inputs, increasing the sale price of end products.
 - Extending the coverage of the biofuel distribution obligation to biomethane requires new taxation practices for biomethane, but more work is required to establish the overall impact.

Biogas production process can be promoted with better information management and a more streamlined permit procedure.

Funding

Support for infrastructure

Investment support 2019: 1.5 M€, 2020-2021 7,5 m€

Taxation

EU – Renewable Energy Directive (RED II)

Production support for renewable energy (national)

2 m€ /a (proposal for y. 2021, 2022, 2023: 4m€, 5m€, 7 m€), if nutrients recycled