



Horizon 2020



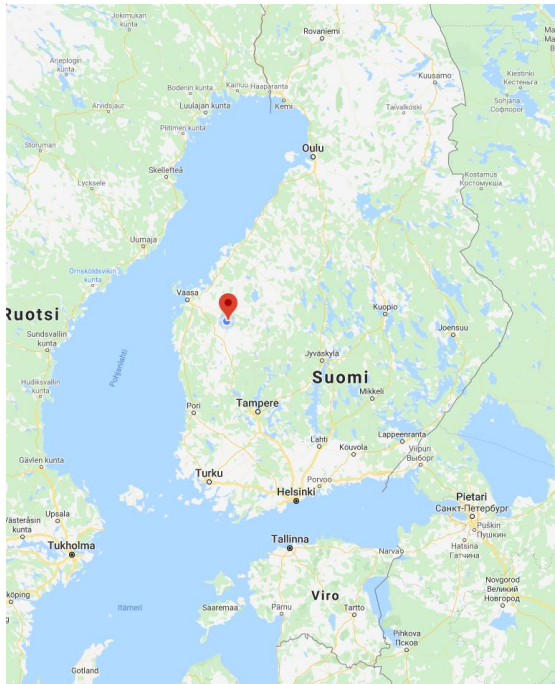
SYSTEMIC
Circular solutions for biowaste

Nurmon Bioenergia Oy (Atria case), Finland

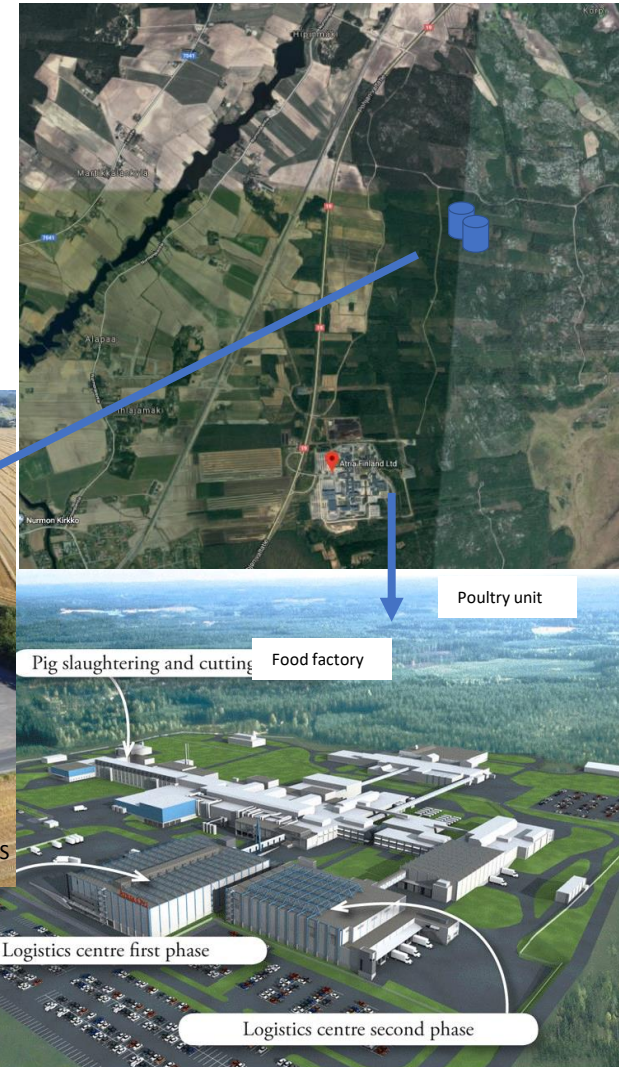
Teija Paavola

Location of the biogas plant

- The plant site is approximately 2 km north from the Atria slaughterhouse and food factory in the town Seinäjoki
- Intensive agricultural area (on a Finnish scale)



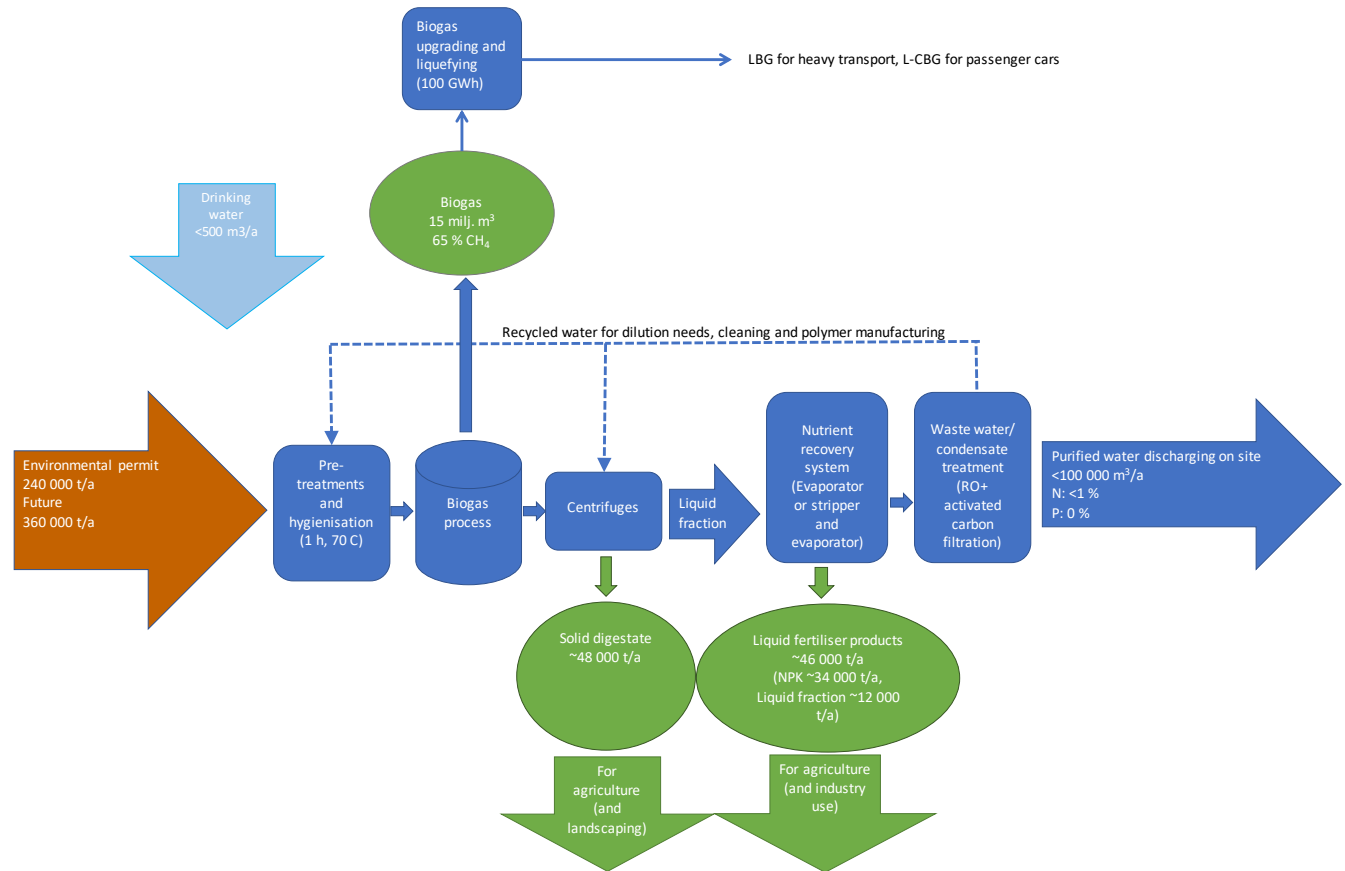
Example of similar biogas plant from Denmark



Planned biogas plant concept

Feedstock

- Animal manure (pig, cattle, broiler) 200 kt/a
- By-products from slaughterhouse 25 kt/a
- By-products from food industry 10 kt/a
- Plant biomass (grass, silage)



Financing and incentives

- **Total investment costs ~35 million €**
 - Investment aid: 9.3 million €
 - Own financing: ~10 million €
 - Bank and other financial institutions: ~16 million € (Governmental guarantee from Finnvera 30 – 50%)
 - Normal project financing in principle > viability and cash flow need to justify very well
 - New sector > not known by financiers
- **Cash flow rely on LBG market**
 - LBG price ~100 €/MWh
 - No gate fees from manure, some euros from industrial by-products
 - No income from fertilising products
- **Future incentives**
 - The general political climate is favorable for biogas, however, the subsidies are mainly moderate as usual in Finland
 - Sharing obligation for biofuels (in force) and for biogas (proposed from the beginning of 2022) in the transport sector
 - 19.5% in 2022 > 30% in 2030 (advanced biofuels 10%) (discussion raising the obligation ongoing due to the new fuels)
 - Enables the sale of “tickets” if managed to share more than required (ticket price not known exactly at this moment but estimated to be quite good)
 - Meaning also taxation for biogas, suggested ~10 €/MWh (EU minimum taxation)
 - “Nutrient recycling aid”: ~5 million €/year: waiting for implementation (difficulties finding a solution with other support mechanisms and state aid rules)

Finnish gas network

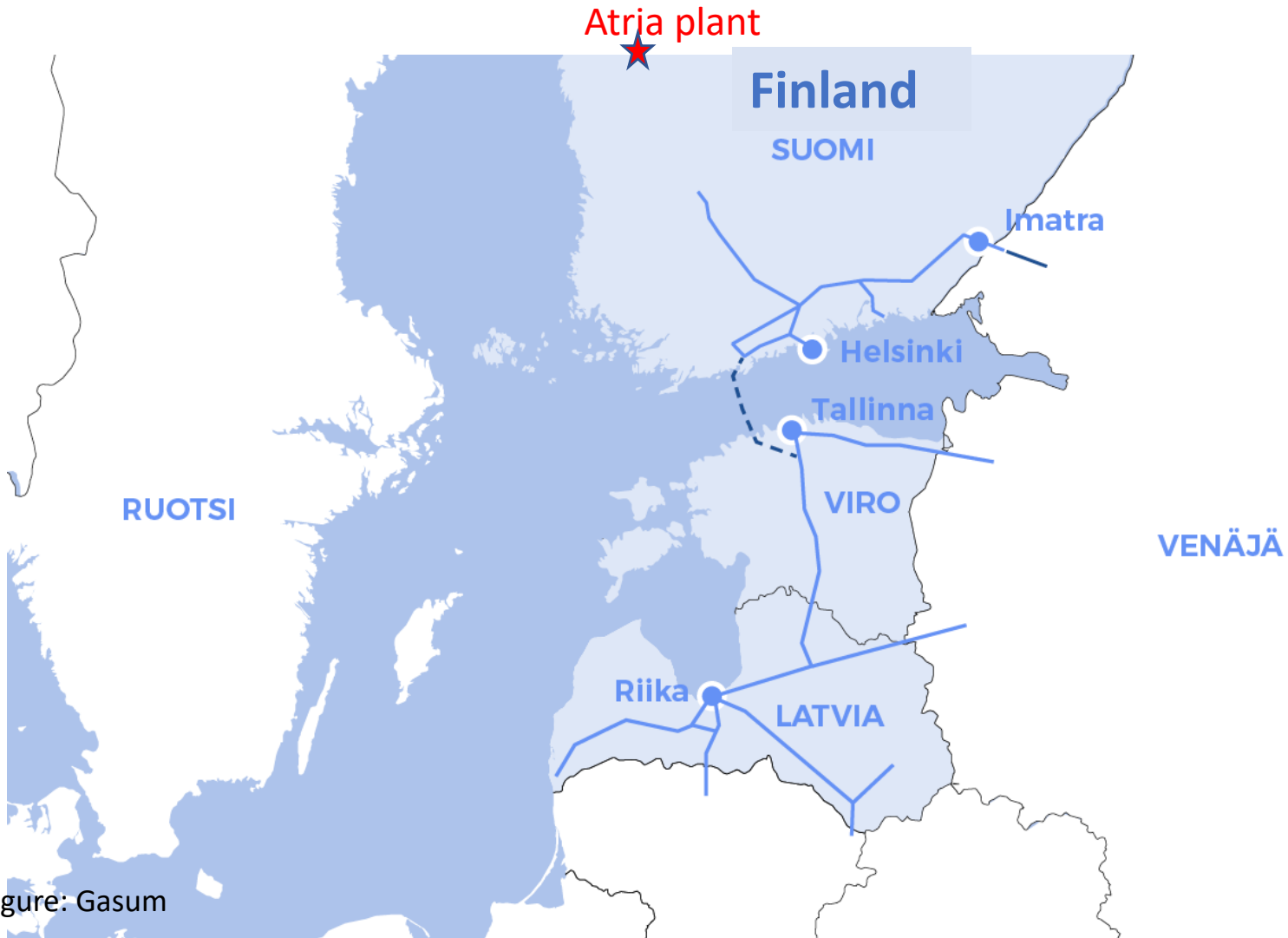


Figure: Gasum

State of the project

- Still waiting for the final investment decision
- Everything was ready (even financing) to start a year ago, but then the Covid-19 happens... and prices of oil and natural gas dropped near zero and future looks a little fuzzy and so on...
- Actors have been waiting for the government decisions as well relating to sharing obligation etc.
- We believe that we will start construction this spring



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