

METENER

Company reflection
Beccu Final Workshop



METENER





Company and history

- Innovator and farmer Erkki Kalmari built his first biogas plant **1998** and founded company in **2001**.
- Close cooperation with University of Jyväskylä during the first years
- In **2002** Erkki started to upgrade biogas for his own car and opened a public biogas filling station in **2004** as first in Finland.
- Metener has 10 experienced employees and our strength is expertise in both technology and biology.
- Our technology has been exported to China, Australia and Mexico.



Products and services



Own **products:**

- Dry and wet fermentation plants
- Biogas upgrading units with CO₂ recovery
- Gas compressing unit
- Gas pressure reducing system
- Hydrogen feeding to dry fermentation reactor for storing electricity (power to gas concept)
- Gas transportation solutions.

Services:

- Pre-design. Gas production trials.
- Designing, consultation and supervision for constructing biogas plant by local partner.
- Technology delivery, including automation.
- Installation and commissioning of the technology.
- Consultation and supervision for process start-up.
- Operating and maintenance support service. Updates.

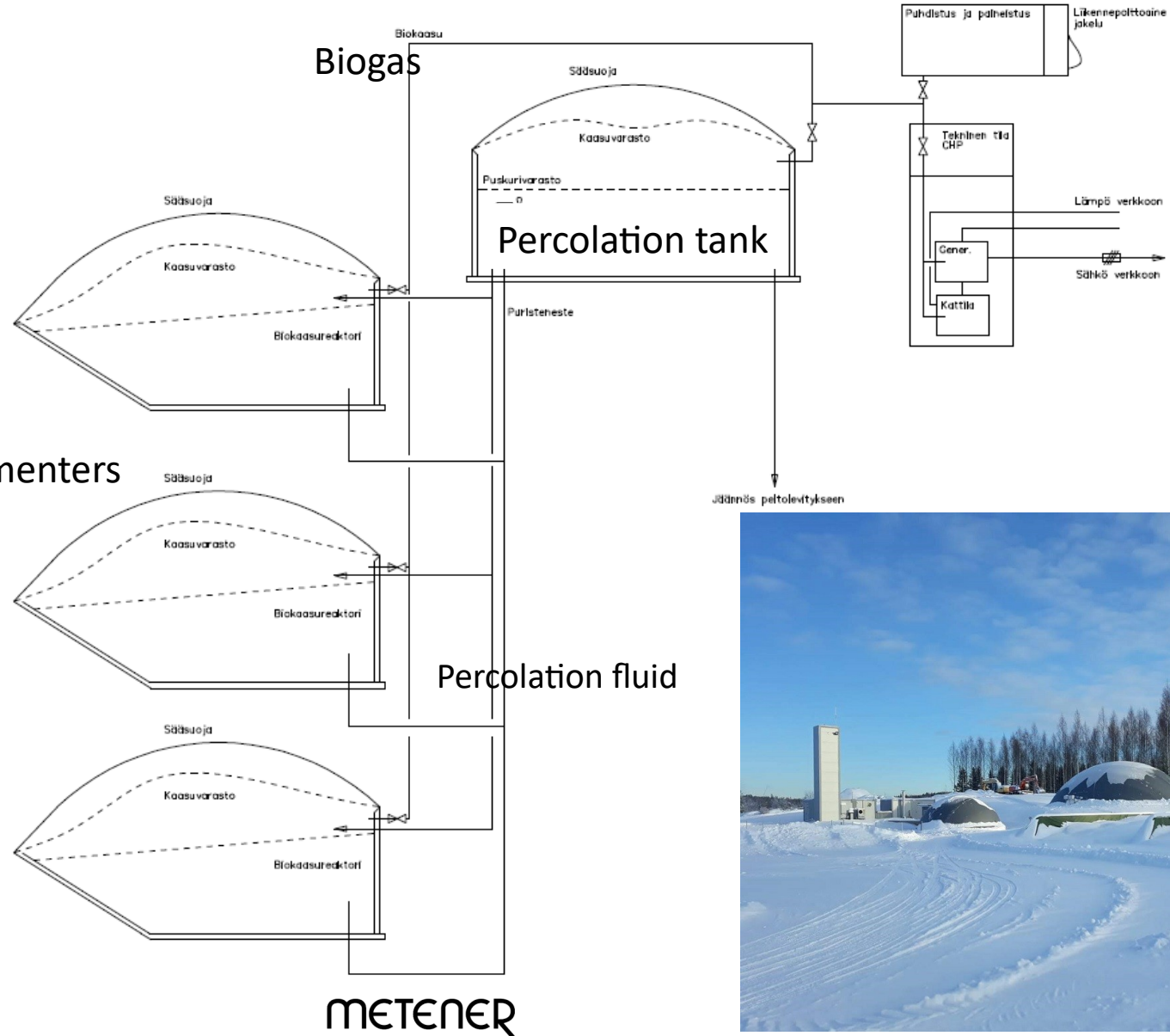
DRY BATCH FERMENTER PROCESS and hydrogen boosting

Suitable for slowly and poorly degradable biomasses like: straw, grass, wood chips, dry manures with bedding.

No mixers, no feeding equipment.
Biomass is loaded and unloaded to batch fermenters by wheel loader or tractor.

Total solid content in fermenter must be above 25%

Batch fermenters



Hydrogen boosting of Methanogenesis



Pros in in-situ :

- Super low investement
- Ability operate according to electricity prices & hydrogen availability
- Possibility to increase methane power output significantly

Cons in in-situ:

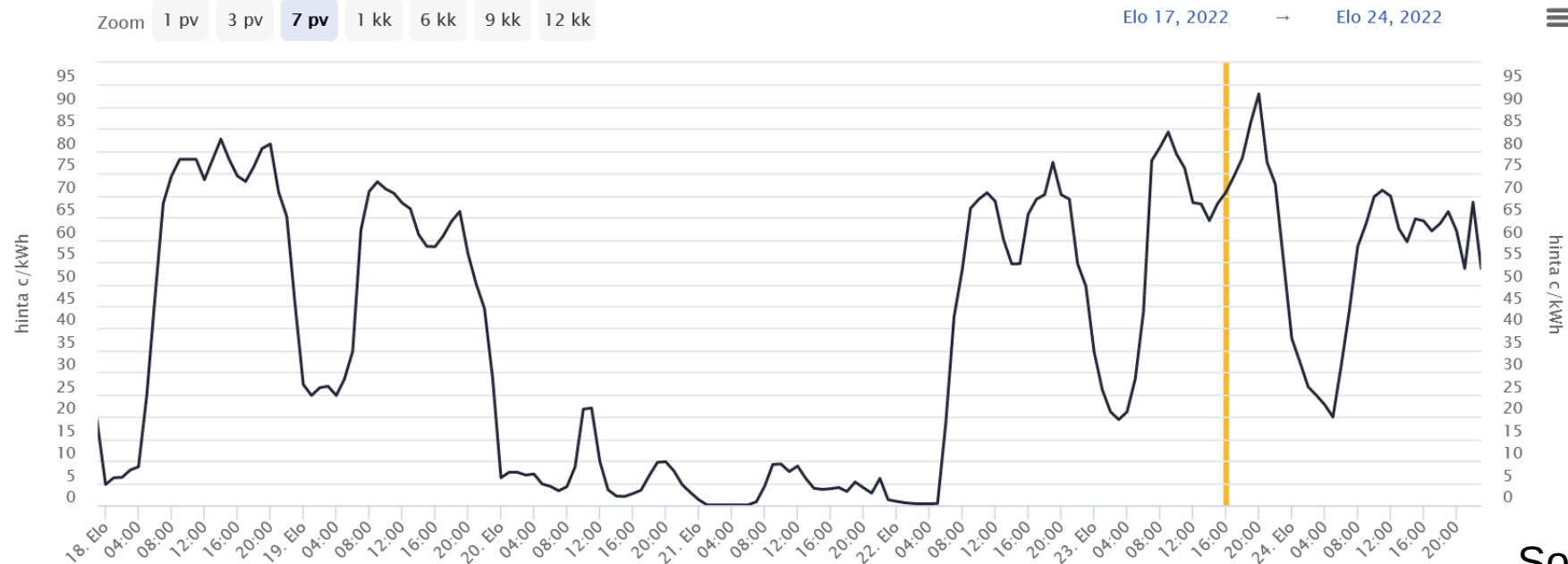
- Ready biomethane product is not achieved
- Residue H2 in product gas sets limit to boosting
- At small scale fixed electricity tax and transfer fees

Hydrogen boosting of Methanogenesis

Typical dry fermentation plant

- Gas power 100 – 2000 kW
- Hydrogen boosting requires investment and running cost in extra capacity of main fuse and electrolyzer
- Could H2 be produced at other facility?

Hinta nyt 70.69 snt/kWh	Päivän alin / ylin 19.35 / 92.93 snt/kWh	7 vrk keskihinta 39.60 snt/kWh	28 vrk keskihinta 27.47 snt/kWh
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Source: sahko.tk

More info

www.metener.fi

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Our vision:

Energy and nutrient self-sufficient agricultural systems

