

Small-scale anaerobic digestion

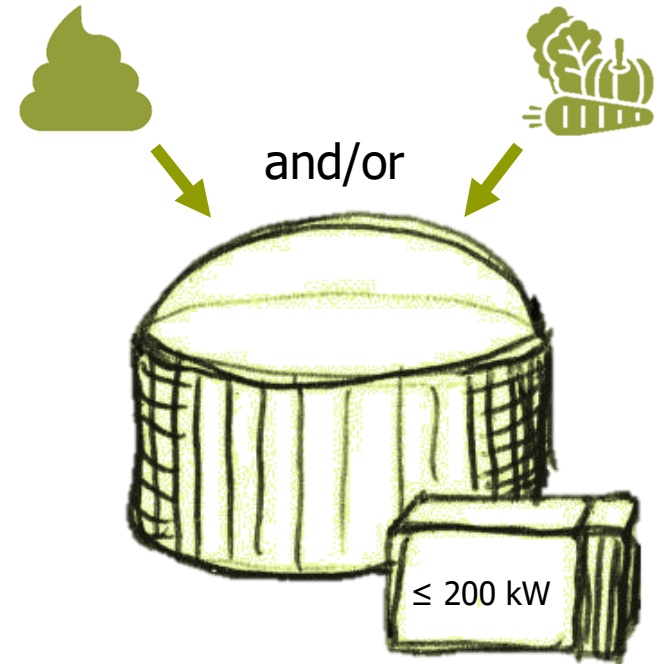
26/02/2021

Operational Group PocketFarmer



Small-scale anaerobic digestion

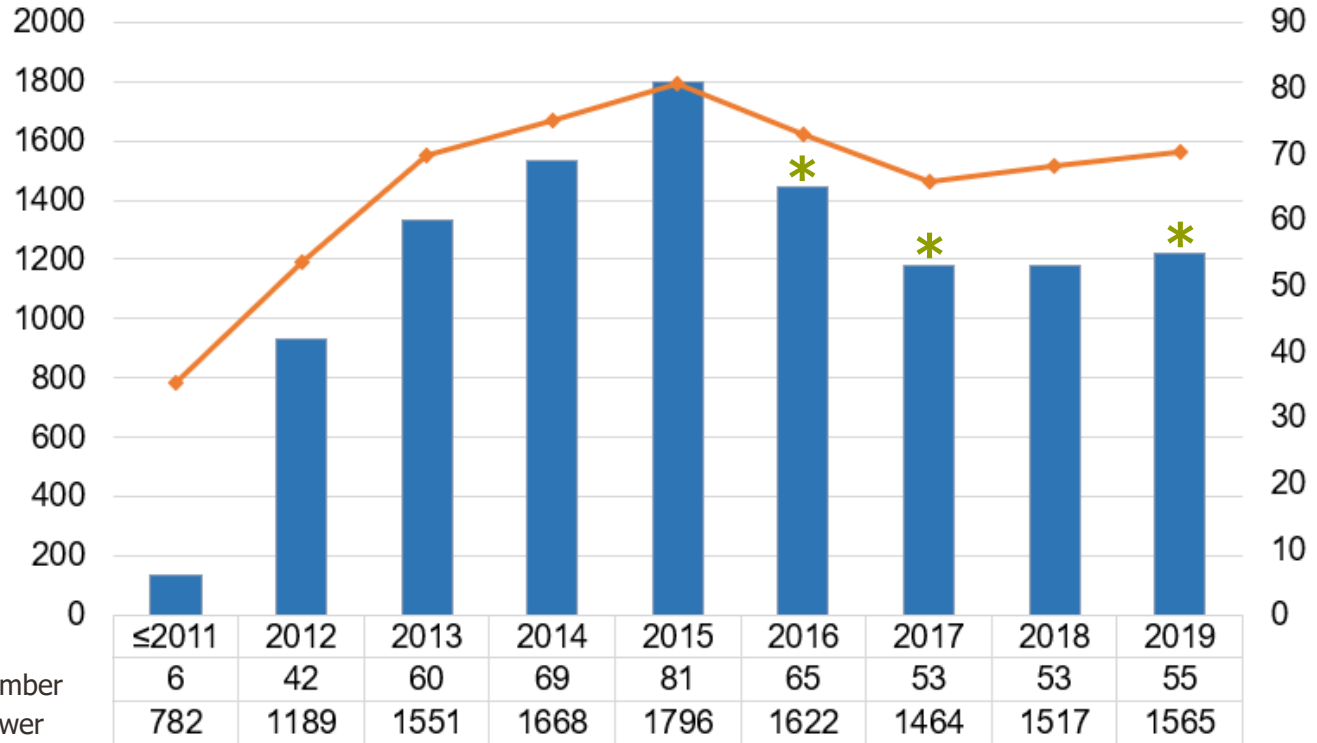
- Proprietary biomass → renewable energy
- Mostly monodigestion of dairy cow slurry
- ≤ 5000 tonnes biomass/year



Situation in Flanders

Electrical power (kWe)

Installations



- * 01/07/16: start Vlaio LA Pocket Power
- * 01/07/17: start OG Pocketfarmer + 2nd market actor
- * 01/07/19: start OG Pocketfarmer 2


Our Operational Group(s)

- OG PocketFarmer: 2017 – 2019
- OG PocketFarmer 2: 2019 – 2021

- Rollout solutions
 - Knowledge and information exchange
 - Solving technical bottlenecks
 - Support subsidy and regulatory cases
 - Trust in technology ↑



Farmer business model

- 1 m³ biogas ≈ 1,5 kWh 
2 kWh 
- Biogaspotential pig slurry = 24-60 m³ biogas / tonne manure
- cow slurry = 13-58 m³ biogas / tonne manure
- leek waste = 46 m³ biogas / tonne waste
- '10 kWe' → ± 60 000 kWh /year (± 15 households)
- > 10 kWe → green power certificates

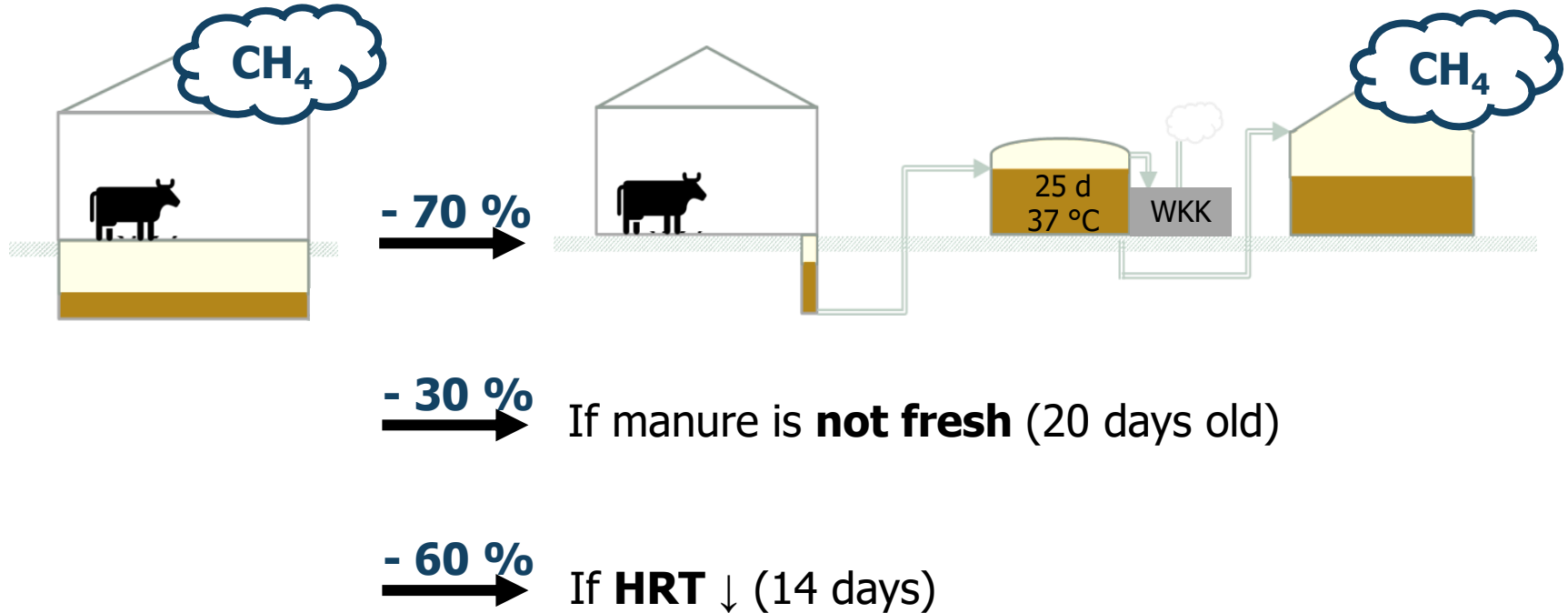
Biogasanalysis

Why?





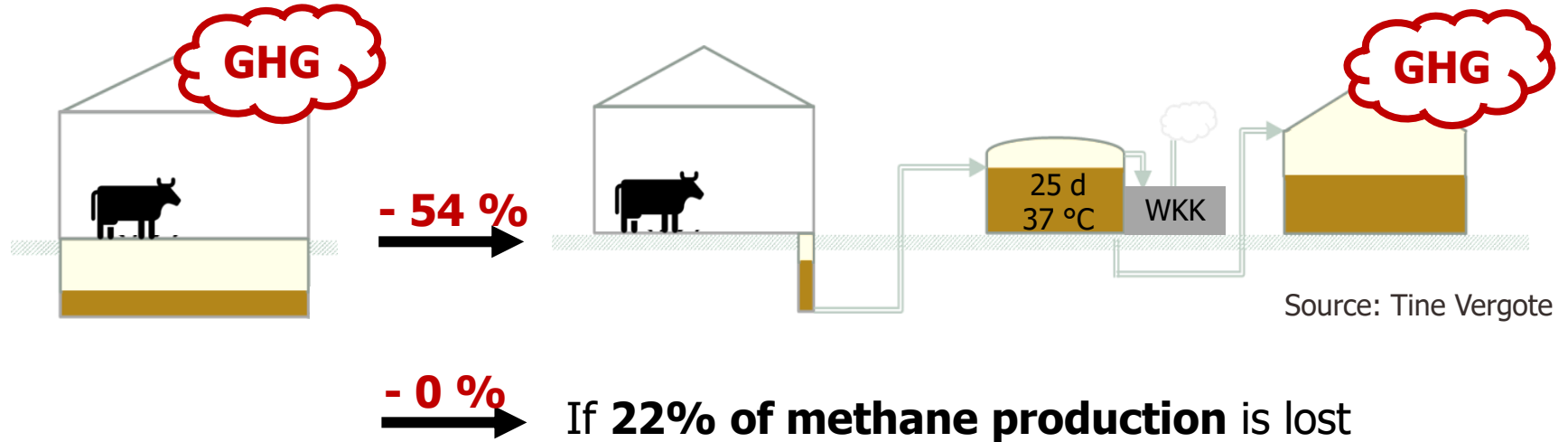
Methane emission reduction?



Source: Vergote T.L.I., Bode S., De Dobbelaere A.E.J., Buysse J., Meers E., Volcke E.I.P. (2020). Monitoring methane and nitrous oxide emissions from digestate storage following manure mono-digestion. *Biosystems Engineering*, 196, 159-171.



GHG emission reduction?



Source: Tine Vergote

Future prospects

IMPORTANT
INTERMEDIATE STEP
TOWARDS CIRCULAR
ECONOMY

NEED FOR A FUTURE-
ORIENTED SUPPORT
FRAMEWORK!

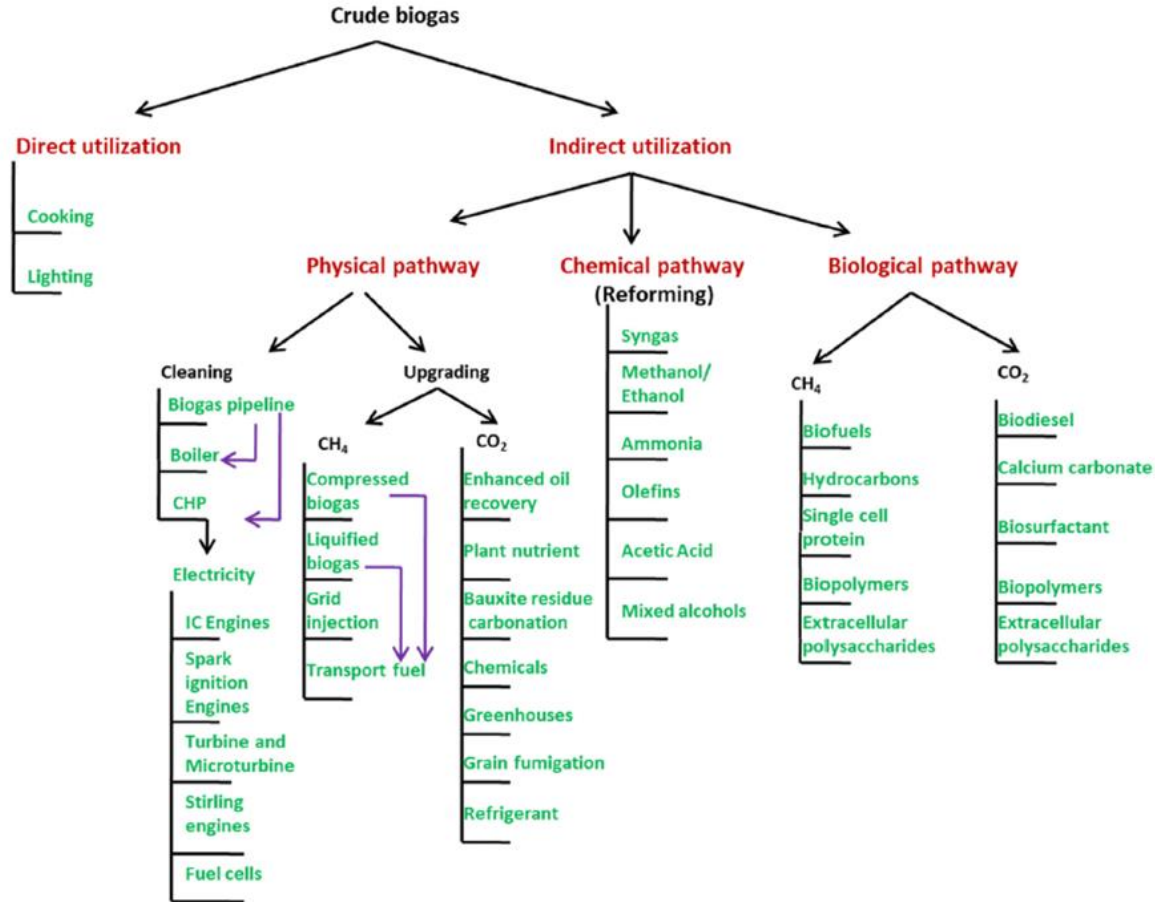


Fig. 1. Schematic diagram of pathways for utilization of biogas, biomethane and bio-CO₂.

Partners PocketFarmer 2:



ONDERZOEK & ADVIES IN LAND- & TUINBOUW



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ONDERZOEK & ADVIES IN LAND- & TUINBOUW

THANK YOU

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