

Collectives energized by manure

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What is the research about?

- Background is in a cooperation project with the uni Eastern-Finland and Finnish Environment Institute, see QUMARE in <http://www.syke.fi/projects/qumare>
- In the politics of circular economies and nutrient recycling, biogas is great. Manure is the biggest resource for recycled nutrients.
- In the real world, nonetheless, biogas production in Finland remains low and the share of manure as a feedstock is low.
- "If manurebiogas installations are such a great idea, wouldn't those be springing up like mushrooms?"



Daily mail: Man-ure looking wonderful

What is the research about?

Answering such question has been touched in literatures concerning technological capacities, innovation environments, policy coherence and economies. → very good strategies in revealing some aspect of the challenge

We proceed a path guided by anti-reductionism, not treating any factor more important than other . The crux of the matter is in taking manure seriously

Guiding question: *"What needs to happen for manure to qualify as a resource in biogas production"*

The key concepts and methodology



Collective – manure gains its capacities in relation to other elements that make it possible to use manure as a feedstock

Qualification – Transforming the qualities of manure into goods requires stability and synchronization

→

Four different cases which illustrate the qualification possibilities and challenges

Farm-based collectives

Manure is costly to transport. Nonetheless, becoming affected by manure when a) out of necessity of manure drawing attention or b) recognizing the potential (not only in energy)

Transition is still challenging: denotes a leap into another sector.

Individual farmers rarely have additional time to spare.

A biogas installation where

- a) Manure is the sole feedstock – low biogas production
- b) Manure is mixed with other agricultural feedstock (different accumulation rhythms, transportation logistics, the overflows of energy and nutrients)



Farm cooperation collectives



Investing in technologies allowing more flexibility in synchronizing flows of resources is costly

→ Cooperation between farms as *"what works in small scales is more profitable in larger"*

Energy and nutrients can be dispersed where there is need, the costs are divided, working together saves time. Technologies allow scaling up operations

However,

Joint working is not common in Finnish agricultural landscapes. Synchronization challenges still remain (weather, contractors, transport sector etc.). Governance is working against such cooperation (MAF investment support, electricity law).

→ Risk of collective growing out of manure

Manure among waste feedstock



Wastes have higher energy content: thus different spatial and temporal setting of operations → profitable to transport in long distances.

Waste-based installations have maximum capacity regulated by environmental permits and the installations are optimized for treating other feedstock.

From a regulatory perspective, manure is not waste, and subsequently it becomes excluded from operational logic of gate fees.

Situation is an law-induced iron cage but not a perpetual one. "Competition is bloody" and new logic of operating

Staying energized by manure: the case of Biovakka

Pigfarmers as owners turn manure as the internal logic of collective's operations.

At the basis was the manure excess and the odours it catalyzed (no special focus on biogas, very limited interest in technologies)

Behind the success: take risks (banks willing to give loans, personal commitment, new technology...)

Economization of manure has pushed regulatory and incentive boundaries (also scientific research)

Still, manure has not stabilized into straightforward tradable good



What are the contributions here

In theoretic terms, when starting to follow the paths of manure to biogas installations, the synchronization of collectives to qualify manure into resource operates on multiple spatial scales and societal sectors

The economization of biogas collectives has created - and need to create - their own space into the politics of nutrient recycling as well. Doing so has required allies from business, scientific and technological communities."Even politicians nowadays have some understanding what biogas is about"

Becoming affected by manure and making the transition to energy producer is not for everyone (how companies can allow this transition?). This risk-taking is worth to remember by the ones designing the policies of nutrient recycling. "I do not know a case where manure would have started to move without regulatory interventions or some strong instruments of support"