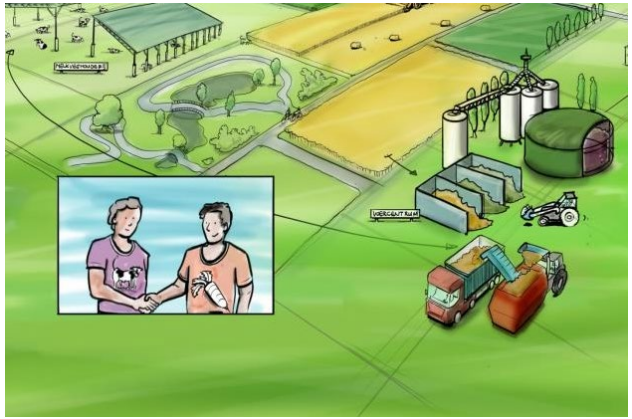
Regional feed and energy centre

EAAP, Florence

3 September 2024, Paul Galama



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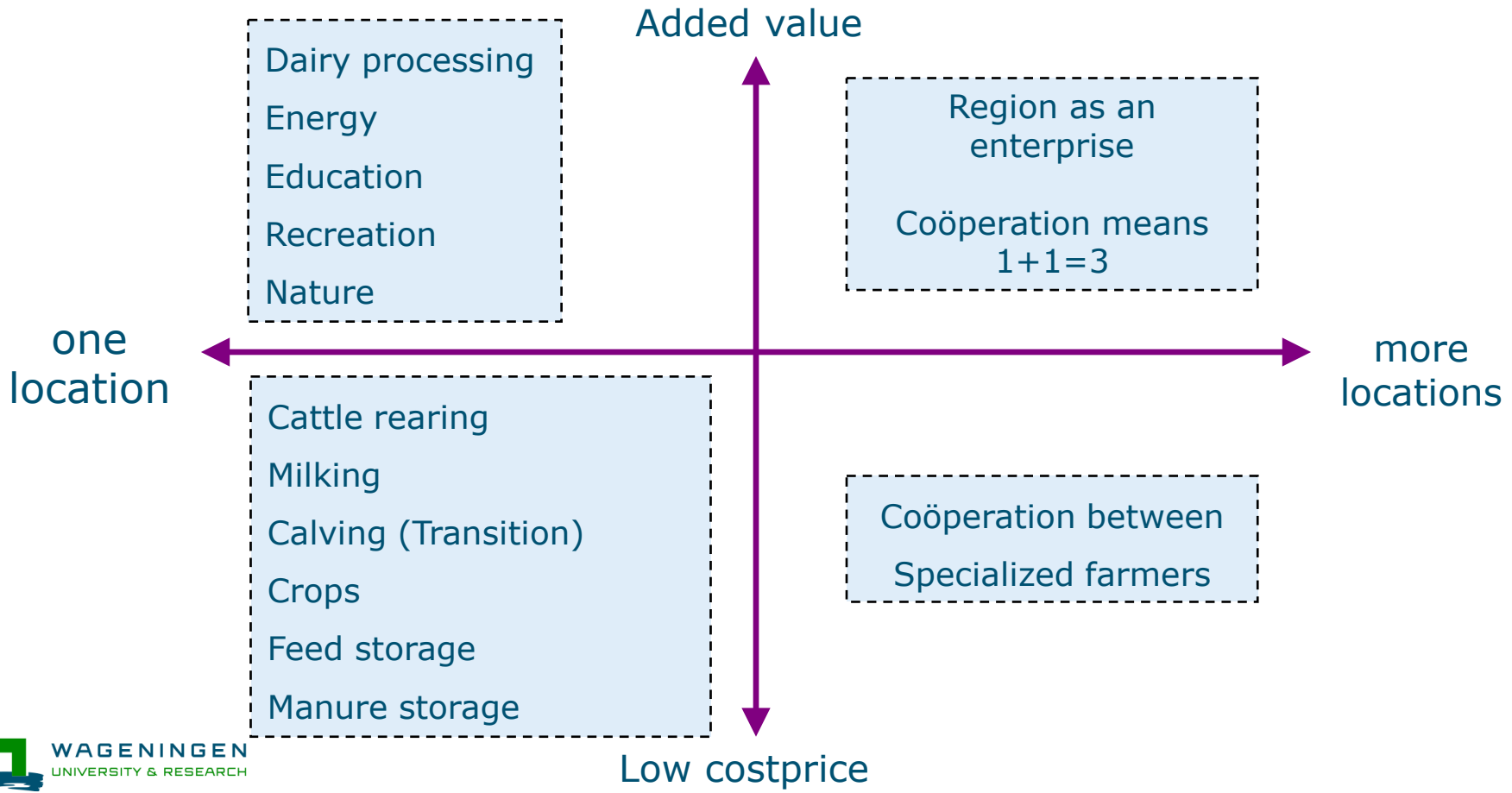
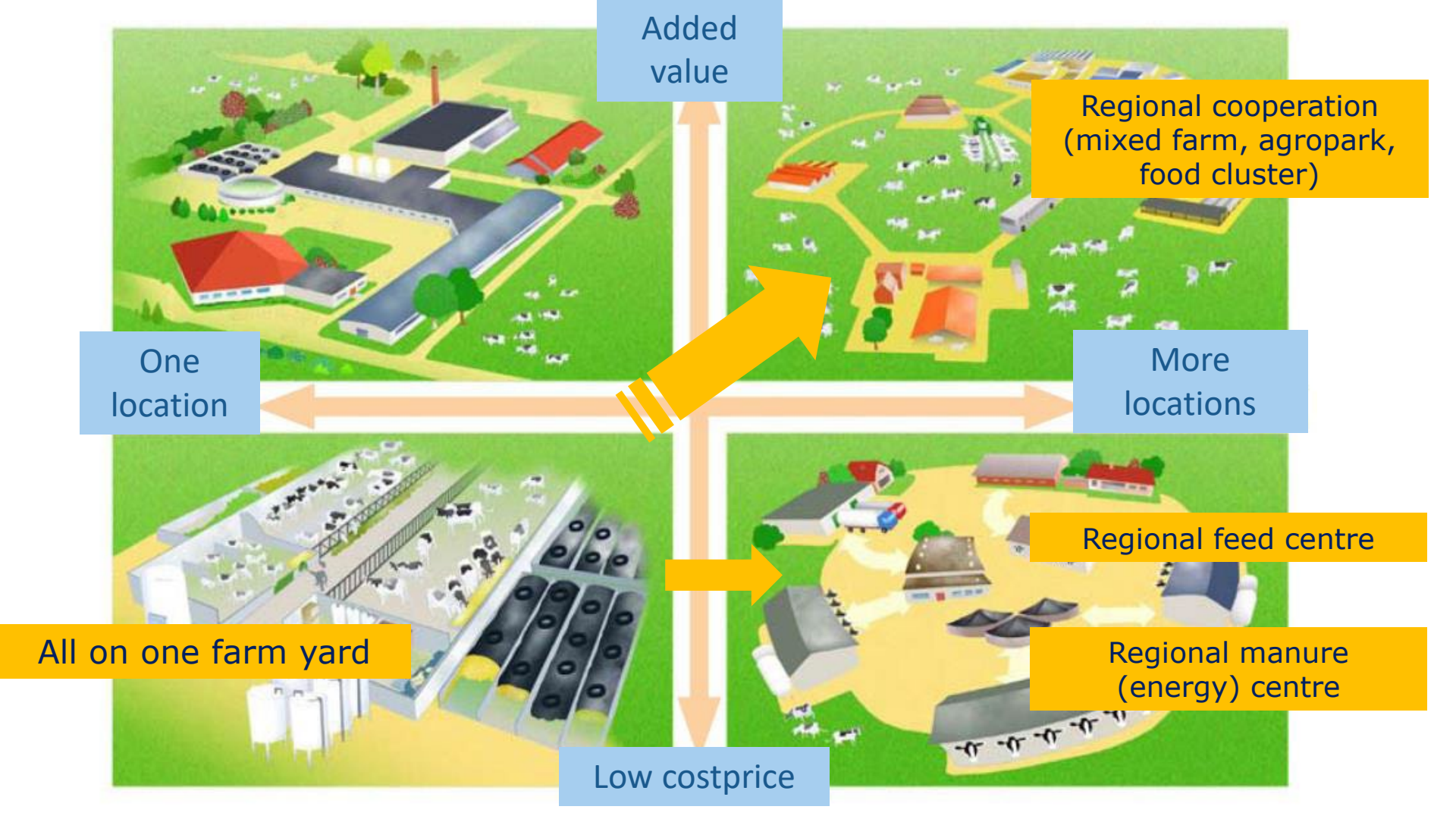
Directions for developments




Added value
Regional cooperation (mixed farm, agropark, food cluster)
One location
More locations
Regional feed centre
All on one farm yard
Regional manure (energy) centre
Low costprice

Dairy farmer sells grass and maize to feed centre

...in container..

...truck picks up container...

Feed centre stores roughage...

First feed centre in Netherlands since 2010

...and stores feed components..

and grain from arable farmers

...and makes total mixed ration (TMR)

...and delivers it to 3000 cows on 28 farms

Motivation regional feed centre

- Scaling up dairy farms reaches limits of labour and yard
- Lower costprice: 1,5 -3,5 € / 100 kg milk
- less problems with land at distance
- Opportunities for ‘mixed farm’ on regional level

- Disadvantages
  - More traffic
  - Less control of feeding

Energy use (MJ per 100 kg milk)

[1] Direct energy: use of fuels for transport and machinery and electricity
[2] Indirect energy : purchase of feed and fertiliser, feed storage

	Without feed centre	With feed centre
Dairy farms and roughage	270	226
Concentrates	183	72
Concentrate replacers	-	94
Feed centre	-	19
Total	453	410

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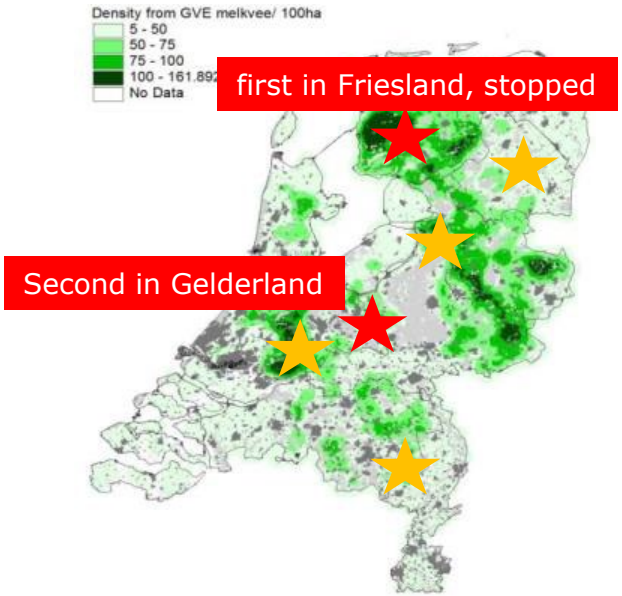
9% lower energy use with feed centre

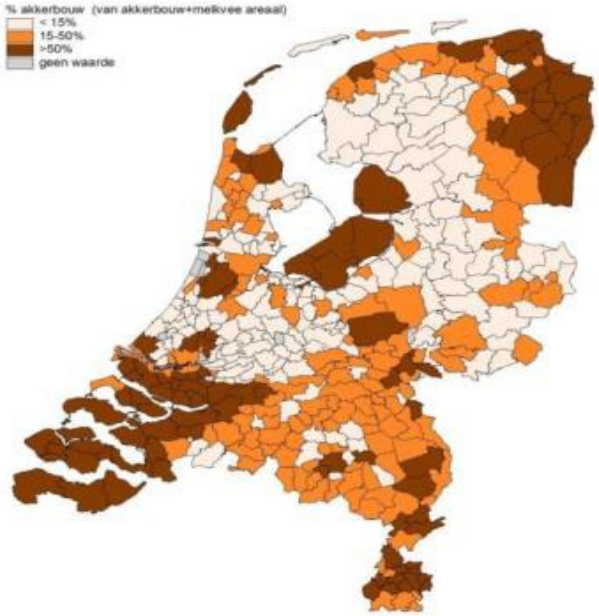
Hot spots for feed centre

Many cows per square km within 15 km



Ideas, hot spot

Many arable farmers within 80 km or ...



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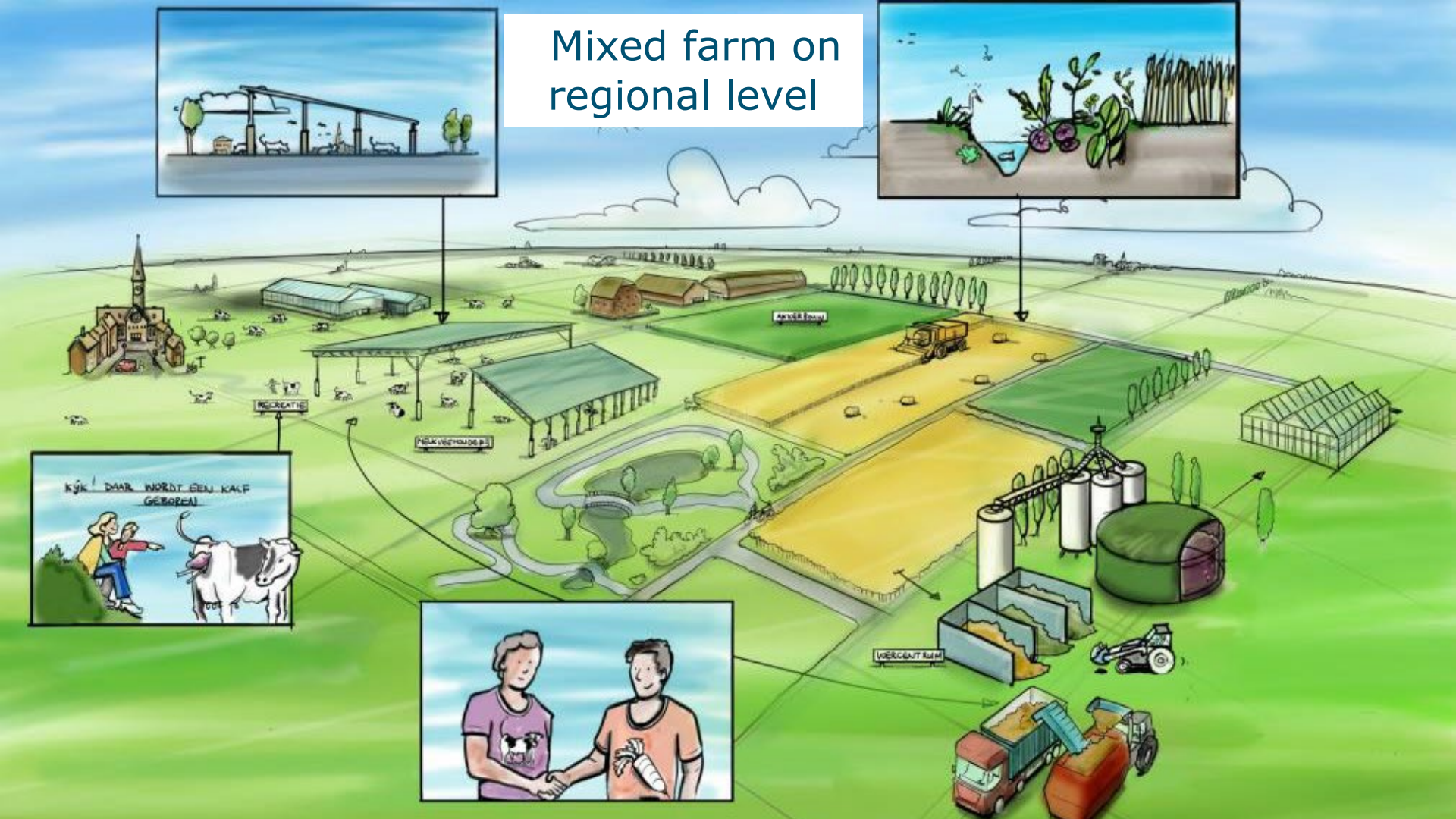
Experiences

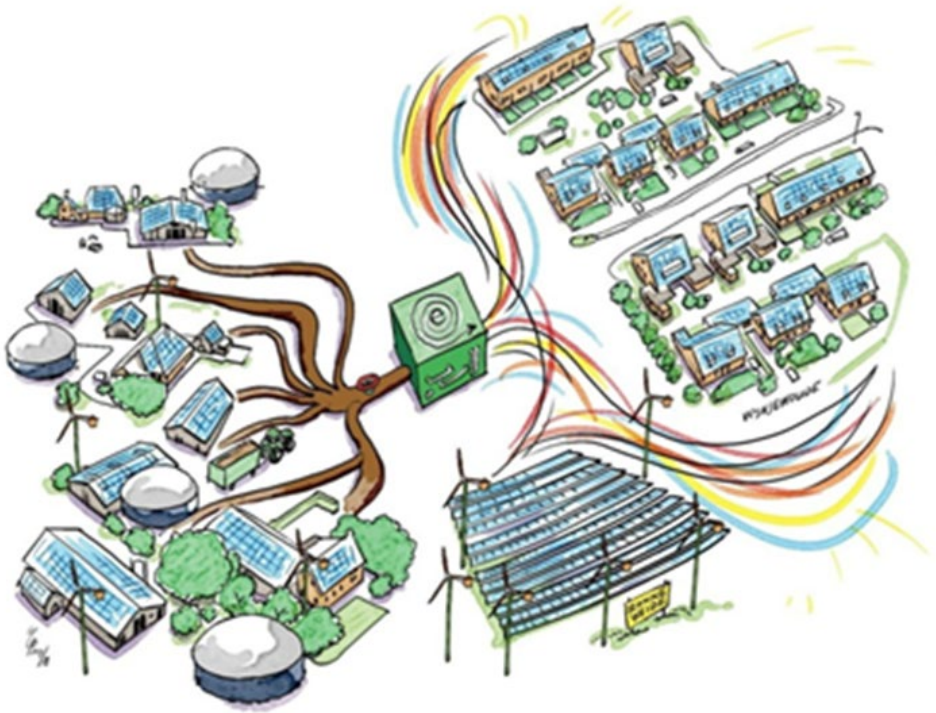
- Friesland stopped, farms too far
  now only concentrate of raw materials
- Interesting for farms:
  - Small and large
  - ‘low’ feed efficiency
  - New
  - Willing to outsource feeding
- Make good contracts; arrange what can go wrong
- Gelderland still exists, vaccinating cows against botulism

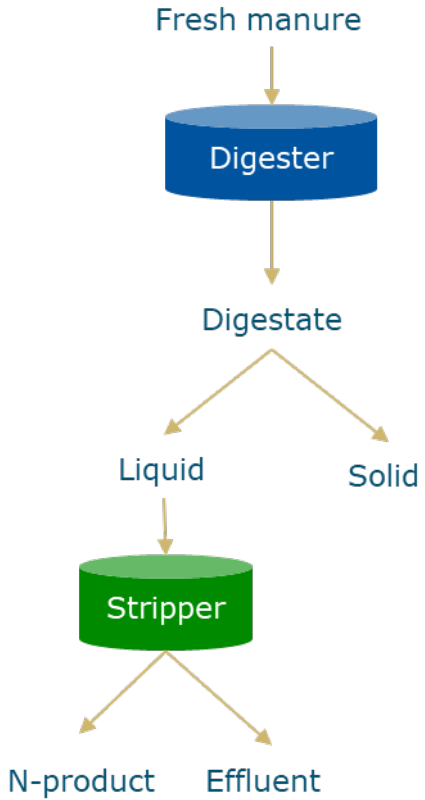
More insight in efficiency cows and land

Mixed farm on regional level

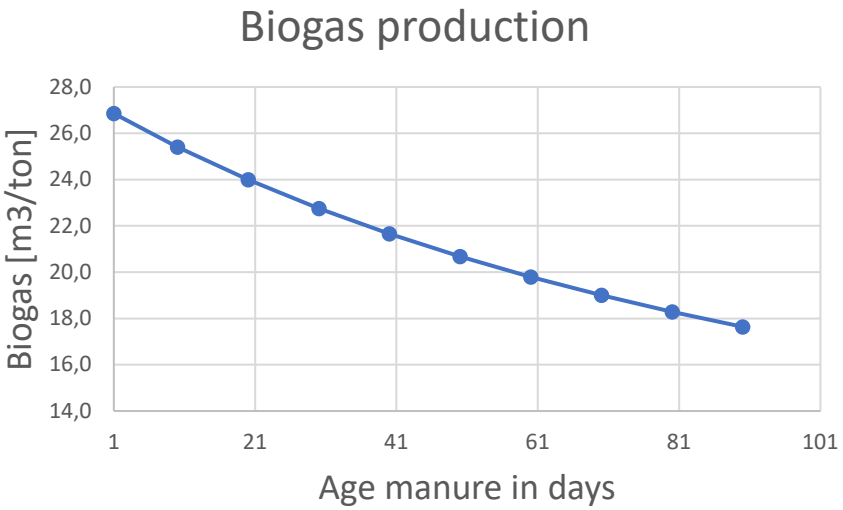


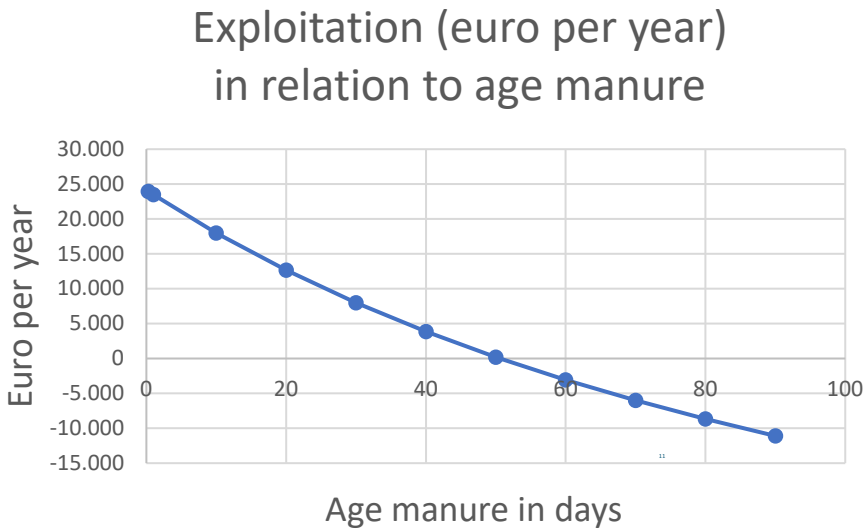
Manure processing on farm level or in cooperation?





Influence age of manure on exploitation





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Impact age of manure and number of dairy cows on annual costs per cow

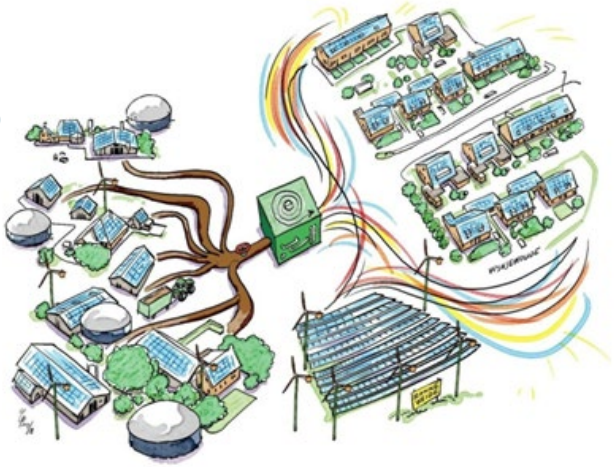
Regular barn + digestion

Average age of manure (days) / Number of dairy cows	10	30	60	90
100	-214	-258	-309	-349
150	-28	-72	-124	-163
200	68	23	-29	-69
250	126	81	29	-12
300	166	120	67	27

Regular barn + digestion + N stripper

Average age of manure (days) / Number of dairy cows	10	30	60	90
100	-490	-560	-642	-692
150	-213	-285	-368	-419
200	-75	-146	-229	-281
250	10	-63	-145	-198
300	66	-6	-90	-142
350	106	34	-49	-102
400	132	59	-25	-78

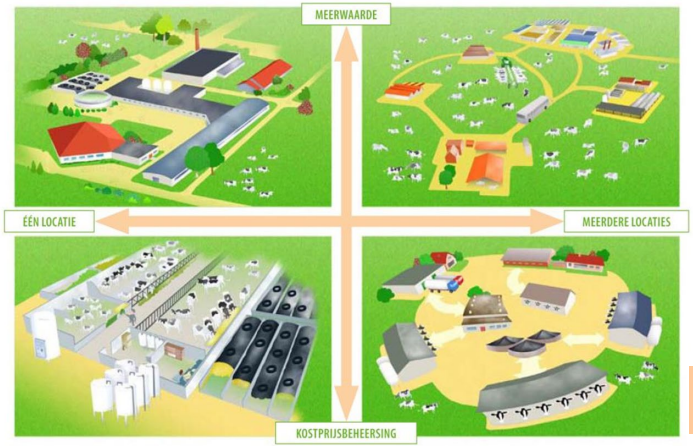
Manure processing perspective



- Reduction methane emission from manure: 75-85%
- Positive business case possible, depending on
  * price energy
  * age manure
  * size farm
  * liquid as Renure (saves manure export and fertilizer)
- Example cooperation 26 farmers Friesland (central digestion, green gas): Can be profitable if manure product after stripping is accepted as Renure and upgrade biogas to green gas

Take home messages regional cooperation

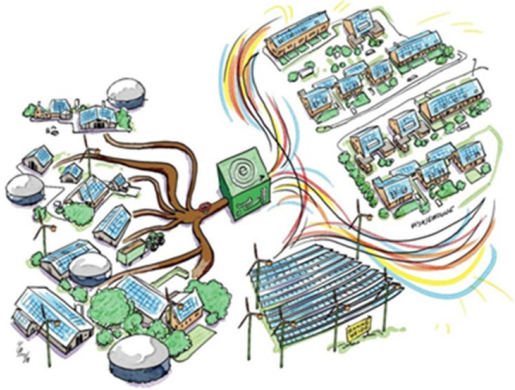
1. Sharing investment costs
2. Take advantage of benefits specialization and optimization at regional level
3. Upgrade regional biomass (circulair economy)
4. Less independent as an entrepreneur
5. Vulnerable when entrepreneurs quit
6. More regional transport
7. Process to get permit can take long time

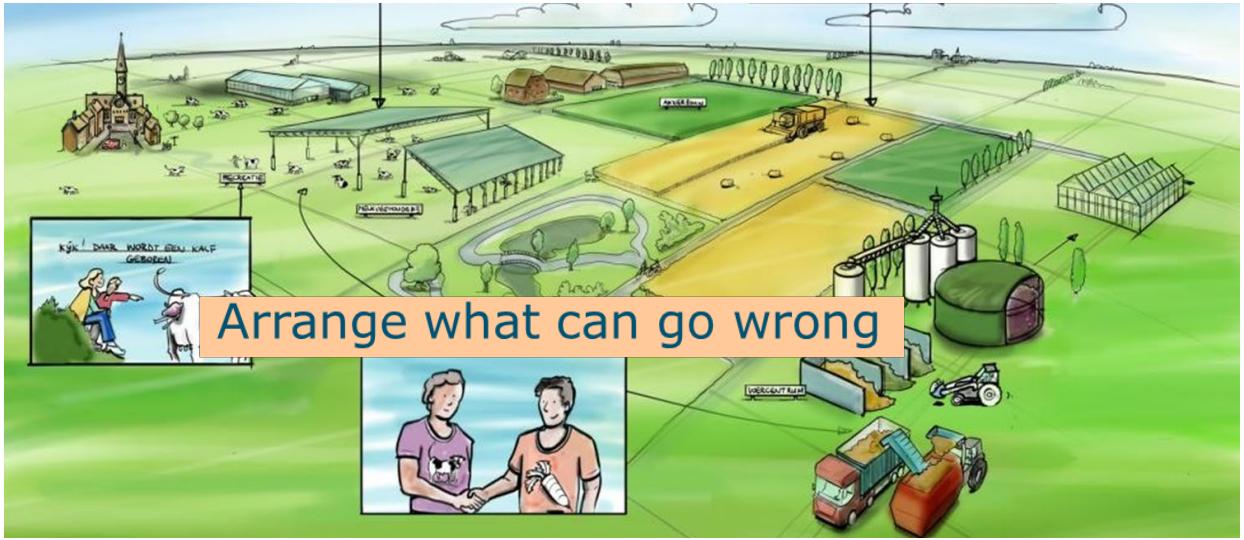


Thanks

Paul Galama

Alone you go faster together you go further...!?





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