



Ministerie van Economische Zaken

# Manure digestion

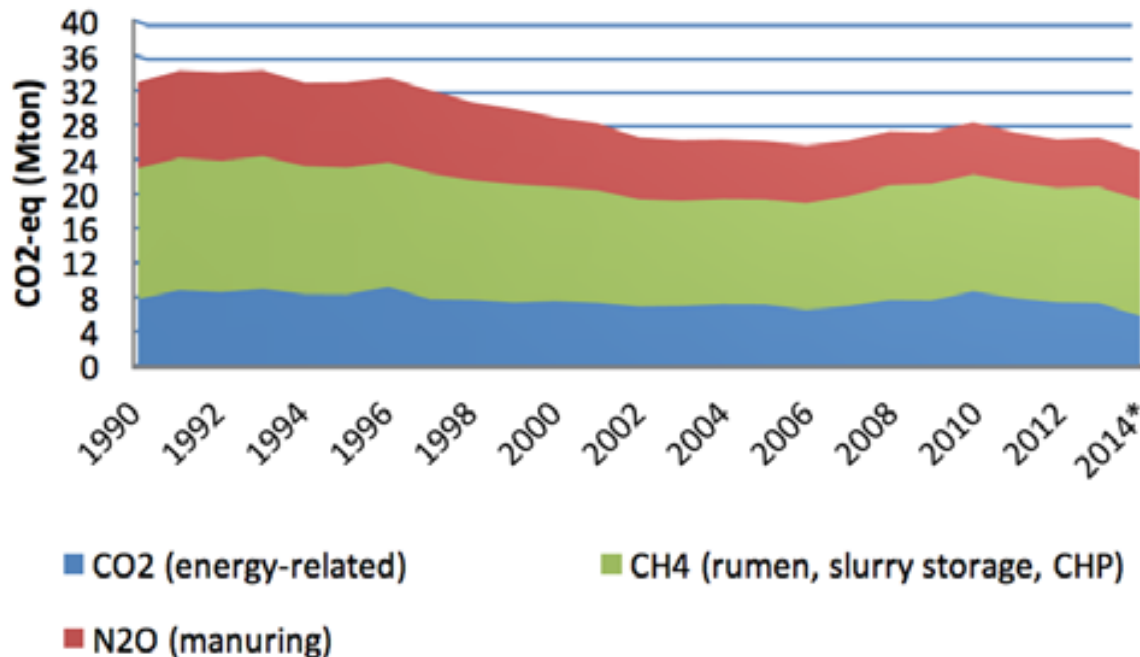
The valley of death

Elmar Theune



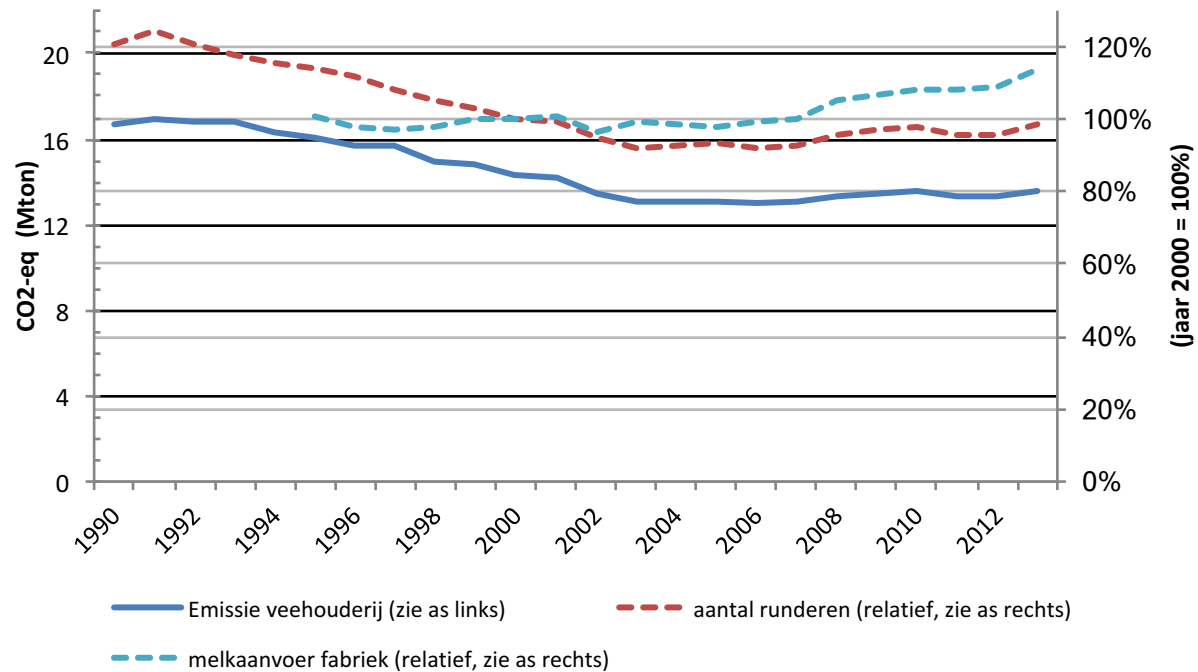
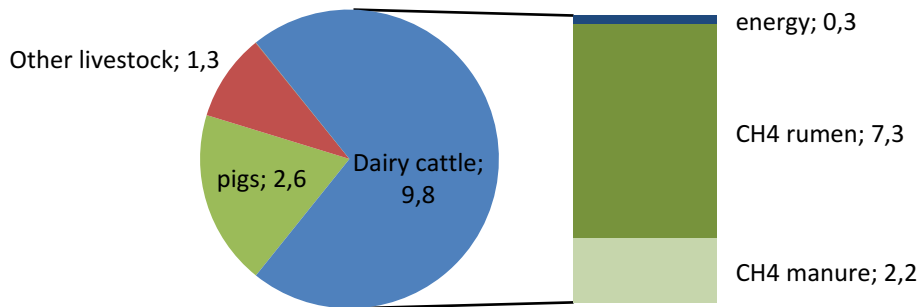
# Dutch Agriculture and greenhouse gas emissions

- 2016: Dutch Agriculture is responsible for 14% of Dutch greenhouse gas emissions (26,4 Mton).
- Since 1990 a reduction of 20%.





# Dairy cattle and greenhouse gases



Blue line: emissie veehouderij (Mton)  
Blue dots: milk production (%)  
Red dots: number of cattle (%)

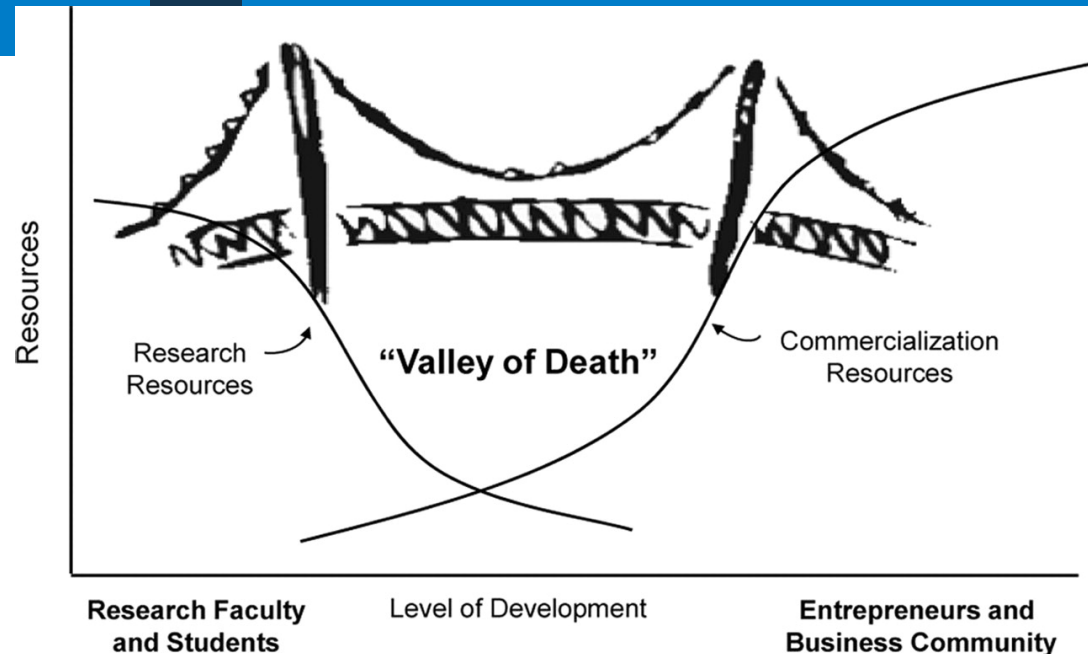


## Manure digestion

- Methane production is the result of biological processes.
- Rumen fermentation is hard to diminish. Research is ongoing.
- The technology for manure digestion is available (prototypes; demonstration projects), but is not used.
- The business case for manure digestion requires too much to subsidize  
(NB: the Dutch Subsidy for Sustainable Energy is a tender that subsidizes the cheapest options first)



## Valley of death:



- The manure digester has to be customized to each farm. Too expensive → No renewable energy subsidy by the government.
- Manure digestion is not the core business of farmers. → No priority for investment and no willingness to do maintenance.
- Few installations → No teams available for failure management.
- The banks had no confidence → No business case; no finance.



## Suggested solution by the dairy sector

The Sustainable Dairy Chain (by mouth of FrieslandCampina) proposed a solution:

- The sustainable Dairy Chain guarantees a certain quantity of installations.
- The farmers are enabled to lease the digester.
- Installation firms develop three standard manure digester and have teams for failure management.
- The price can drop and the business case improves.
- To make this possible the ministry is asked for a *temporary* subsidy.



## Reaction of the Ministry of Economic Affairs

The ministry is not in favor of specific subsidies.

But:

- Climate change and the energy transition are major policy issues.
- The dairy sector has limited options for greenhouse gas reduction.
- Manure digestion is a serious option for greenhouse gas reduction.
- Methane is a source of renewable energy.

So:

- The minister has decided in favor of a specific subsidy for manure digestion.
- A open tender on price is organized for about 200 mono-digesters.