



Ministry of Economic Affairs,  
Agriculture and Innovation

## **Biogas production in agriculture and manure policy**

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## Biogas production in agriculture: goals/motives

For the farmer:

- produce sustainable energy (gas, electricity, heat) and, by doing so, generate income;
- part of the strategy for improving manure management.

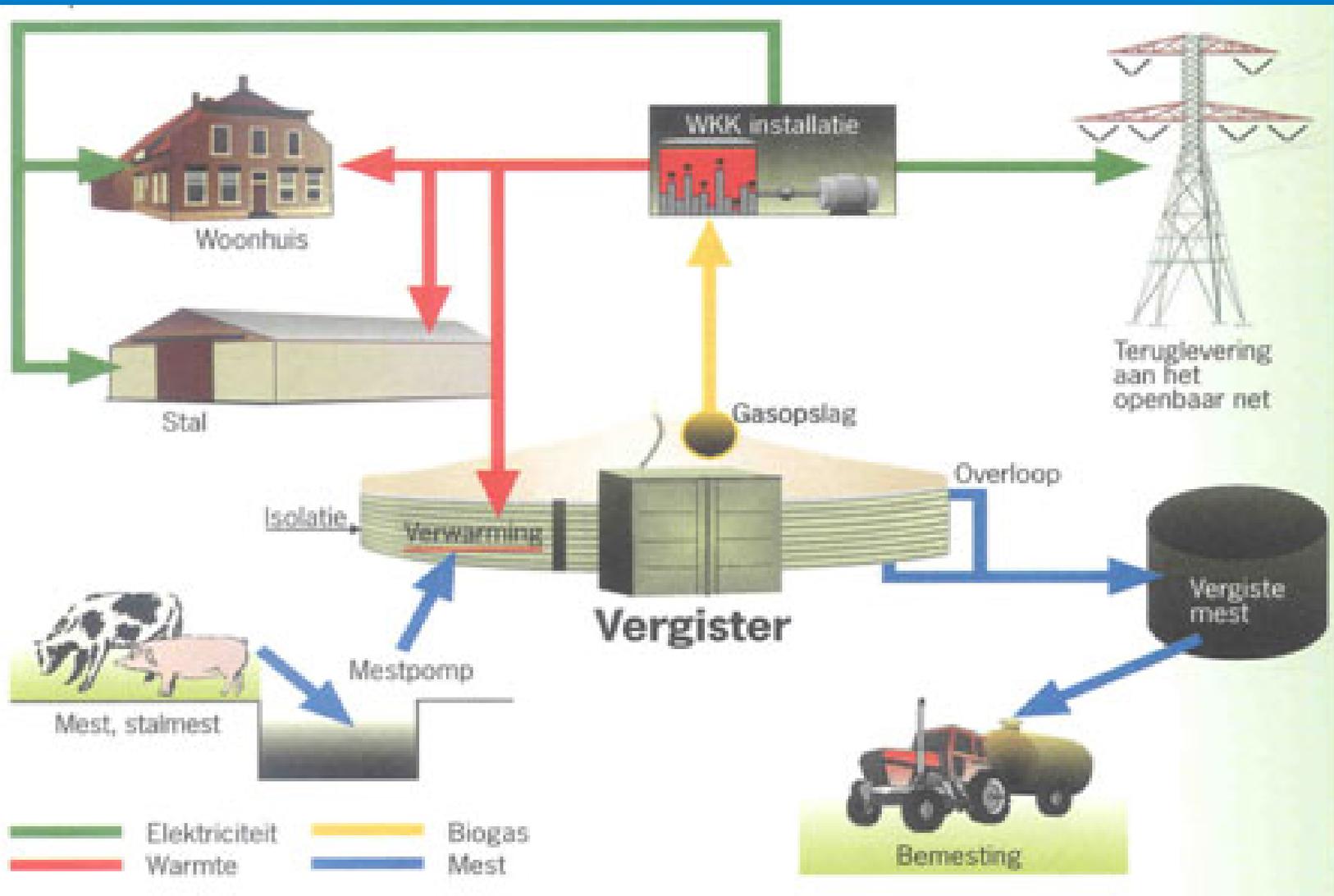
For government/society:

- diversify the (national) sources of (sustainable) energy
  - Dutch ambition: produce 1500 million m<sup>3</sup> biogas in 2020 (in about 400 co-digestion installations)
- reduce the emissions of greenhouse gasses
  - meet EU- and international goals
- part of the solution for the manure problem by creating manure with better 'market potential' (e.g. better usable, soil improver)



## Biogas production in agriculture in practice

- Main technique used: co-digestion of animal manure with other biomass products
- Biomass added: (part of) crops, residues from feed- and food industry





## Biogas production in agriculture in practice

- Main technique used: co-digestion of animal manure with other biomass products
- Biomass added: (part of) crops, residues from feed- and food industry
- Possible advantages of **CO**-digestion: increase the amount of biogas produced
- Possible problems with co-digestion:
  - risk of contamination of digestate with unwanted substances → risk contamination of soil and water
  - sustainability of co-digesting scarce resource (food-feed-fuel) ?
  - adding biomass → adding extra phosphorus and nitrogen in a situation (like in NL) with already surplus



## goals fertilizer/manure policy and biogas production

### Policy goals:

- General goal for fertilizer/manure policy: satisfactory water quality for nitrates and phosphates
- Specific goal for digestate used as fertiliser: prevent pollution of agricultural soils (and water) with harmful substances

### Problems:

- General: large surplus of animal manure in NL → disposal of manure increases costs for farmers
- Specific for co-digestion: temptation of using co-digestion as waste disposal opportunity → risk of pollution of agricultural soils



## Limiting conditions for co-digestion

Policy:

- ➔ If digestate contains >50% manure and added biomass is on 'positive list' → digestate is considered fertilizer (manure) and can be used as such.
- ➔ All other options → digestate is considered waste → higher costs of disposal for the farmer!

Government authorisation of co materials ('positive list'),  
criteria (among others):

- possible negative effects in the environment (e.g. maximum levels for heavy metals and organic micro pollutions);
- Energetic value
- Agronomic value



## Discussion on present policy on co-digestion

### Complaints:

- list of authorised co materials ('positive list') too limited;
- procedure of getting co materials on 'positive list' is too elaborate:
  - costs of testing procedure for specific (kind of) co-material paid by first applicant; benefits are for all users of the specific product  
→ slows down the availability of new products on 'positive list'
  - authorisation criteria too strict
- no European level playing field: procedures and outcomes differ in Europe.



## Possible solutions

(work in progress, as communicated with parliament):

- Short term:
  - Extend the number of co-materials on positive list
- Longer term: change in authorisation system?
  - Evaluation of alternative systems (incl. experiences in surrounding countries):
    - alternative approaches: authorisation based on control on 'input', 'throughput', 'output' or a combination of these;
    - more important role for business in control?
  - Most important aspect in evaluation remains: environmental risks



## Challenges for the future

- Systems of self-regulation by business: guarantee minimum quality (learn from food and feed industry)
  - develop and implement quality management systems
  - civil liability arrangements
- Improve techniques and management: optimise production, quality and use of all products of co-digestion (gas, warmth and digestate)
- Further development of (mini) mono-digestion installations: possible advantages: only manure, and only from own farm; smaller investment
- Cooperation between developers, producers and users of techniques and products



## Conclusions

- Dutch government pursues several goals in relation to biogas production in agriculture:
  - increase production of sustainable energy;
  - clean soil, clean water, clean air.
- (Co)digestion in agriculture can be a very sustainable way of producing energy, profitable for farmers and the environment
- Dutch government re-thinks its system of authorising co-materials for digestion with animal manure
- An active role of business in further developing biogas production in agriculture essential for reaching all goals at once



Thank you for your attention!