

# Towards an industrial chair dedicated to methanisation: a holistic approach



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Industrial chair “methanisation in Grand Est region”

- MERGE -

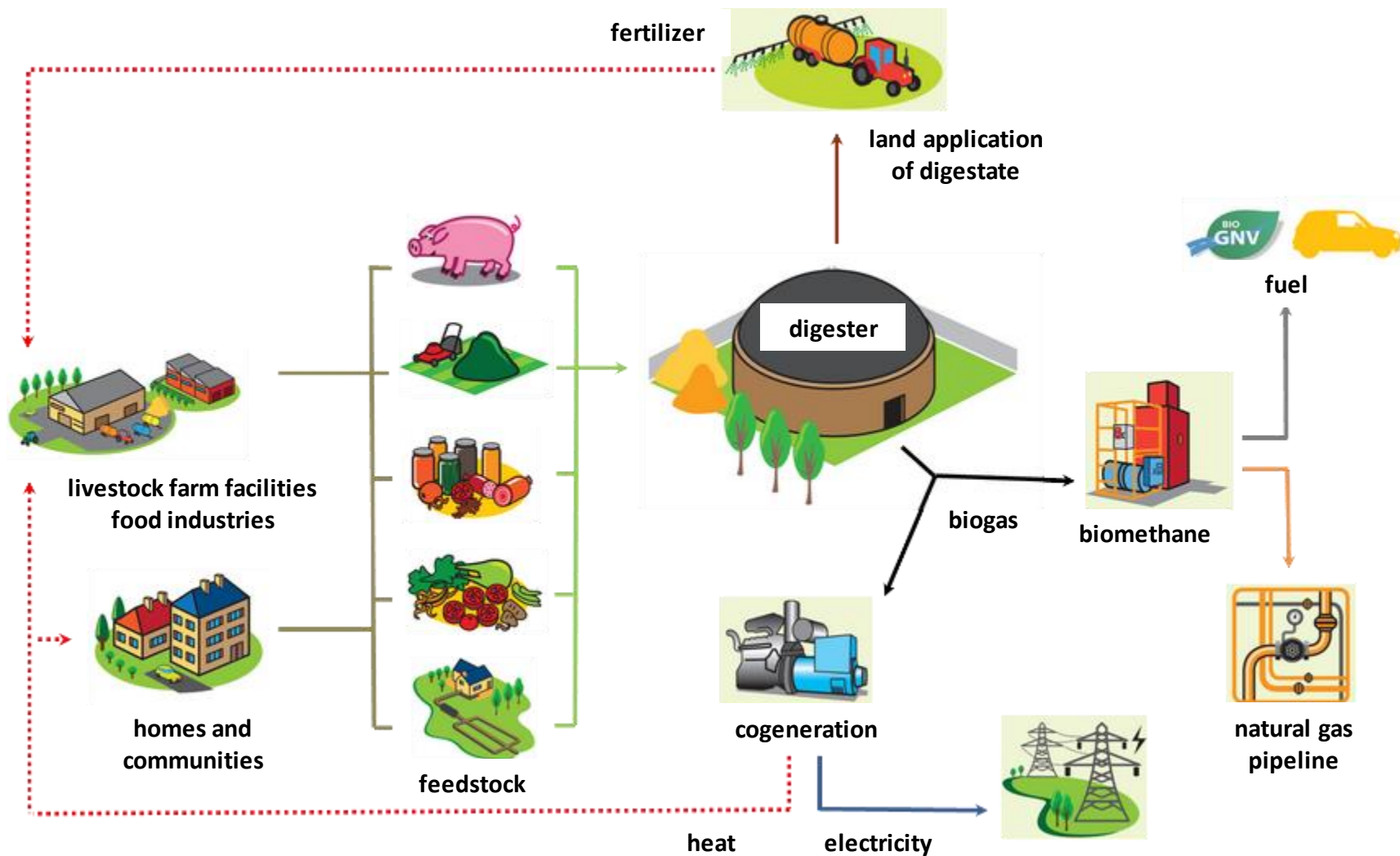


Recently approved by the Grand Est region

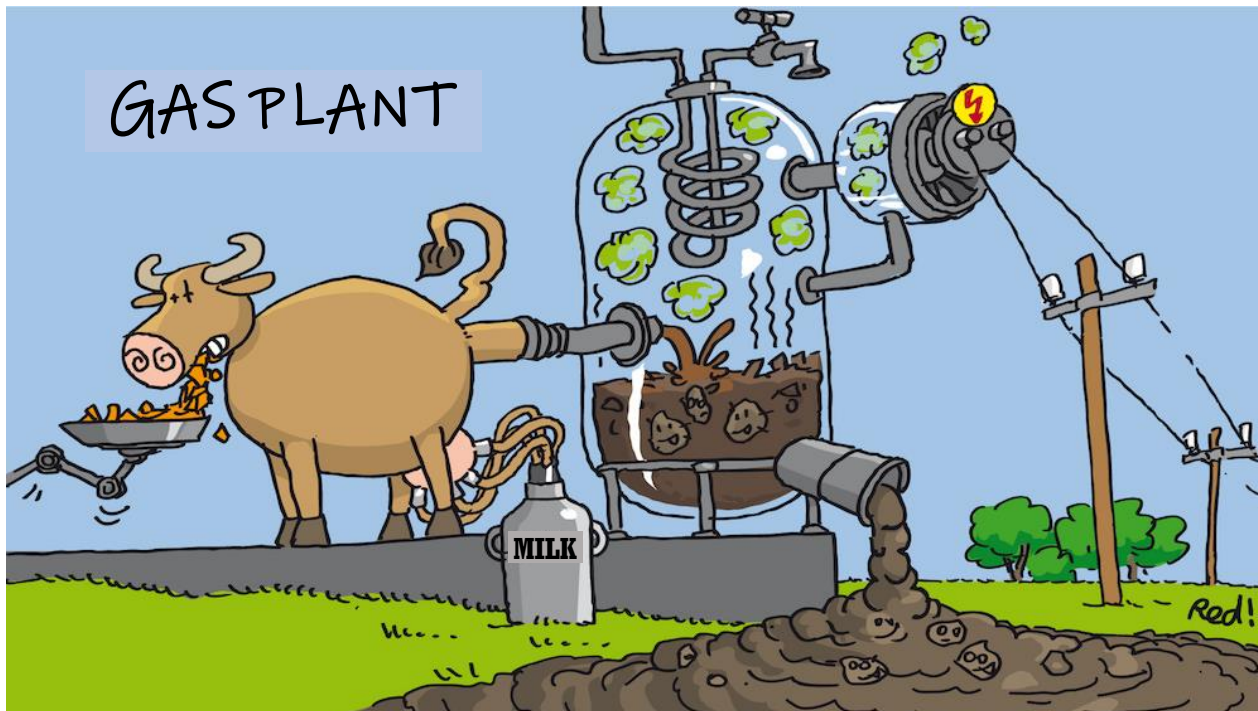


**Targeted start up on 1 January 2023**

# The methanisation sector



# The origins of the MERGE project



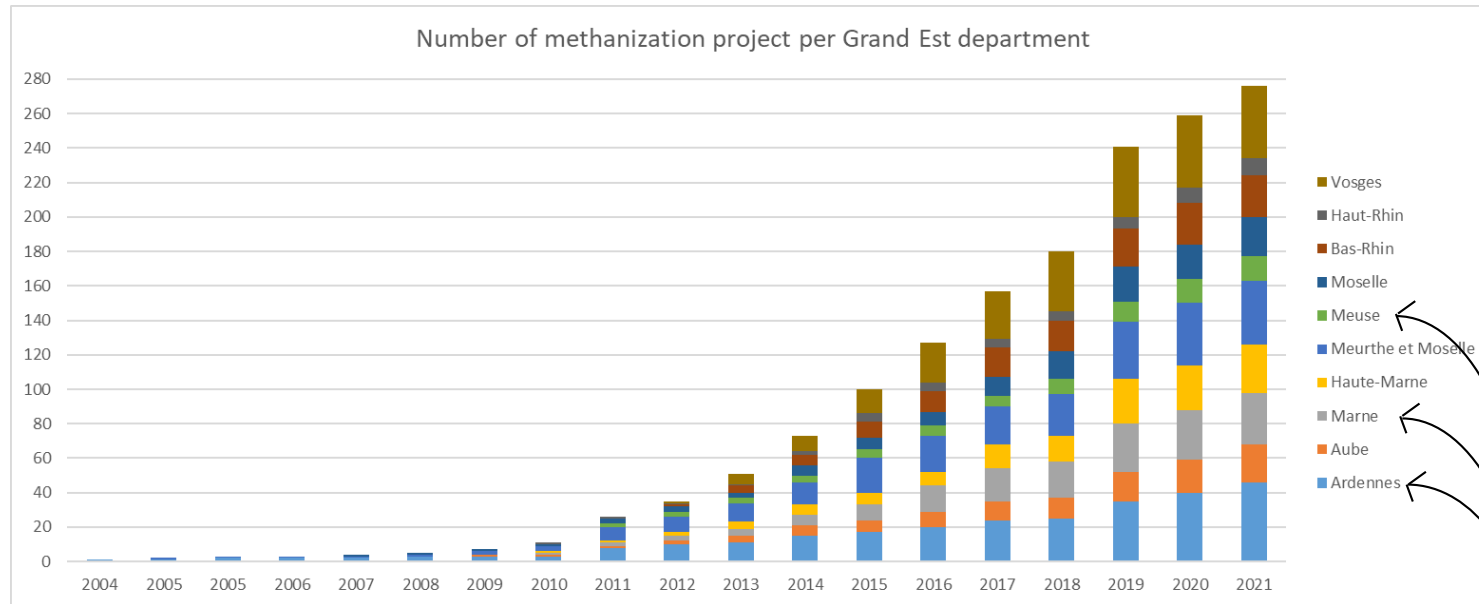
Concerns expressed:

- ✓ Need a lot of **intermediate crops** for the digester to work.
- ✓ **Trucks traffic** and problem of **odors** grow fast.
- ✓ What's in the **digestate**? Source of bacteria? Impacts on **soil**? On **water quality**?
- ✓ Stresses on **influents** market.
- ✓ Increasing **competition between crops**.
- ✓ Farms **concentration**.
- ✓ ...

- ✓ Lack of scientific knowledge

# The context of the MERGE project: 1250 methanisation units in France in 2022 (88% injection vs 12% cogeneration)

✓ Grand Est region: 1st in terms of number of methanisation facilities (229 units)



✓ In the context of the Long-Term Socio-Ecological Research (LTSER) site ZARG, a collective of almost 30 farmers in Argonne Ardennaise aims at building 8 new methanisation plants directly connected to the gaz grid.



# MERGE project: a multidisciplinary and cross-cutting holistic approach

Issues addressed:

- **Environmental quality** (air-water-soil-biota)
- **Biodiversity - wildlife**
- **Socio-economical study**
- Biotechnology and methanisation/methanation processes
- Digestate quality (agronomic : C, N, P, OM ; MTE, organic contaminants, microplastics, pathogens ...)
- Agronomic study (cultural practices, C, N, P stocks - modeling)
- National and international comparison through LTSER, e-LTSER, and ILTER networks

# MERGE project: a multidisciplinary and cross-cutting holistic approach



Provide knowledge by filling the lacks in particular on the ecological, societal and economical impacts of these « **facilities classified for environmental protection** » (ICPE - *in French*)

A consortium of:



Scientists



Industrialists



Farmers



Associations



Local communities

# Project deliverables

- ✓ Acquire scientific data: fill the gaps in knowledge (publications, conferences)
- ✓ Development of:
  - « guide of good practices » intended for farmers
  - communication tools specifically intended to citizens and local communities/politics/decision-makers
- ✓ Data collection - open data
- ✓ Comparison (practices and data) with other regions and countries
- ✓ Modeling of the impacts (positives and/or negatives) at the catchment scale
- ✓ Improvement of the processes and biogas yields
- ✓ Bachelor training related to ecological and energy transition
- ✓ ...





Thank  
you



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