



An example of circular bioeconomy in the pig industry



Cécile CRESPEL
Environmental division
Cooperl France

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Cooperl Arc Atlantique is a leading french pig production cooperative

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5,300 employees



2,700 members



5,700,000 porks



N°1 in France



13 MILLION consumers in the world



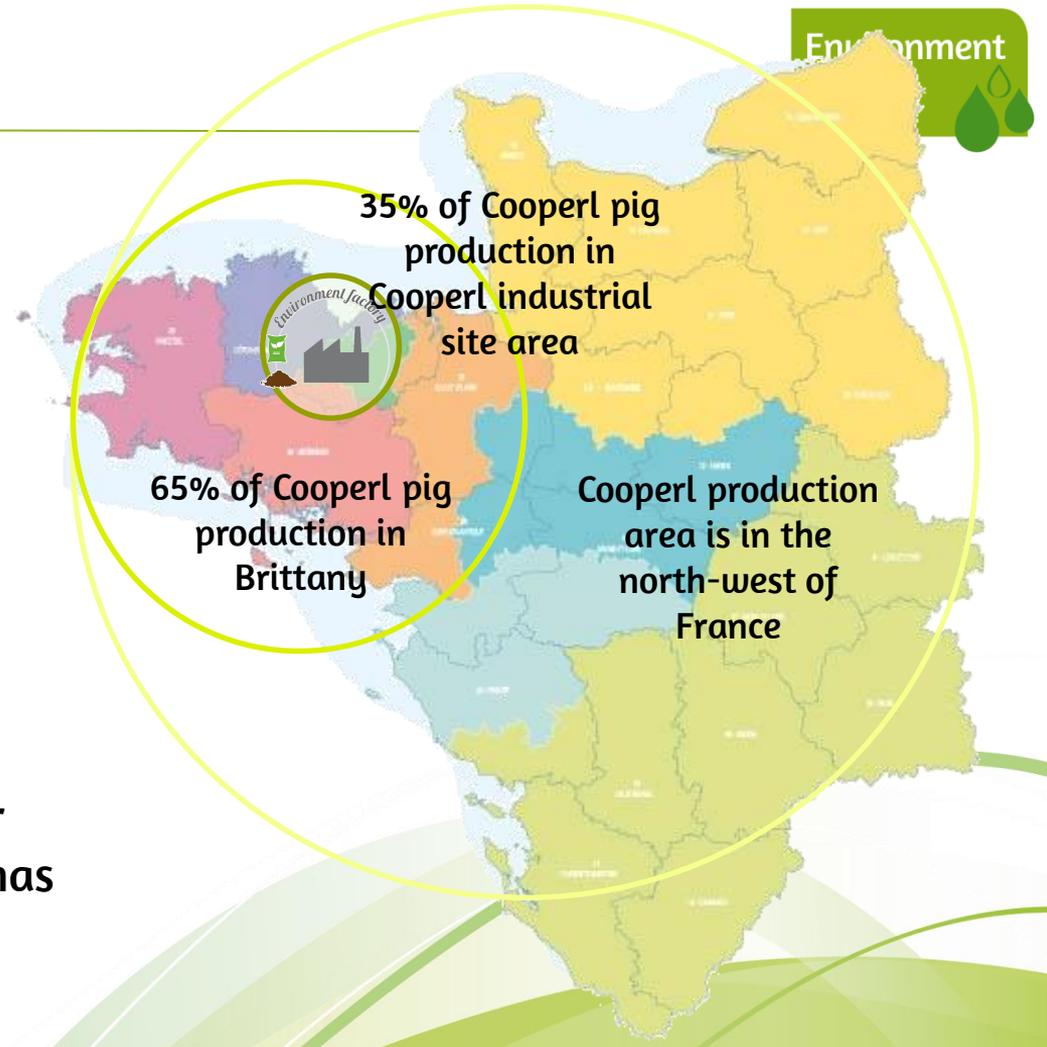
Control throughout the chain

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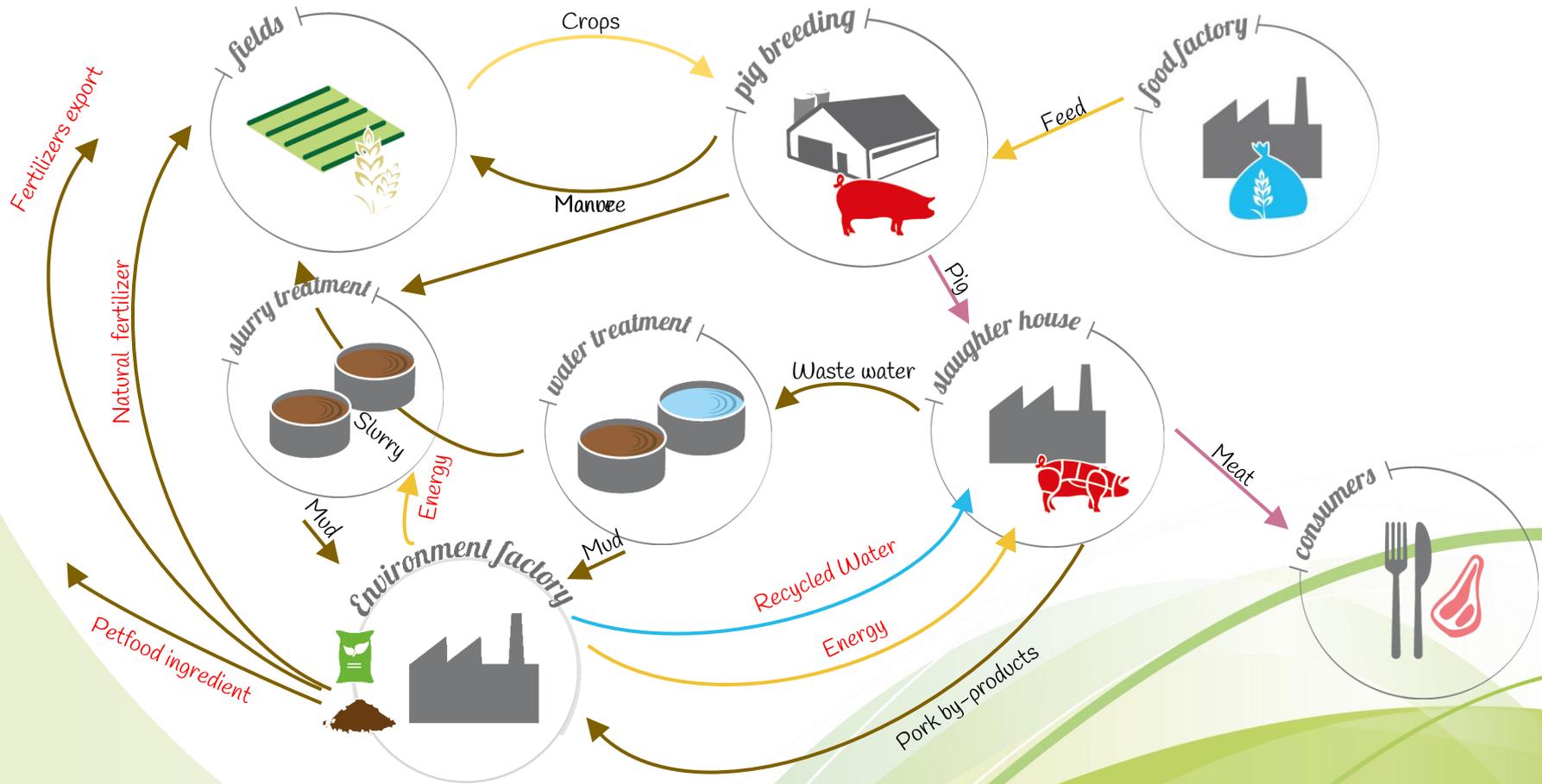


Context in Brittany

- High concentration
In Brittany :
 - 480 pigs/ km² UAA
- 275 000 t of organic fertilizer
from pig production
to manage.
- Many actions implemented for
sustainable fertilization, that has
given encouraging results.



1 Actual pig production cycle



Industrial pig manure valorization

» Producing high standard fertilizers:

- 300 000 tonnes of pork by-products treated per years
- **DENITRAL**
60 000 tonnes of pig manure by-productcs dried
- **WASTE WATER TREATMENT PLANT**
40 000 tonnes of slaughterhouse slurries dried
- **FERTIVAL:**
50 000 tonnes of natural fertilizers sold in France and abroad

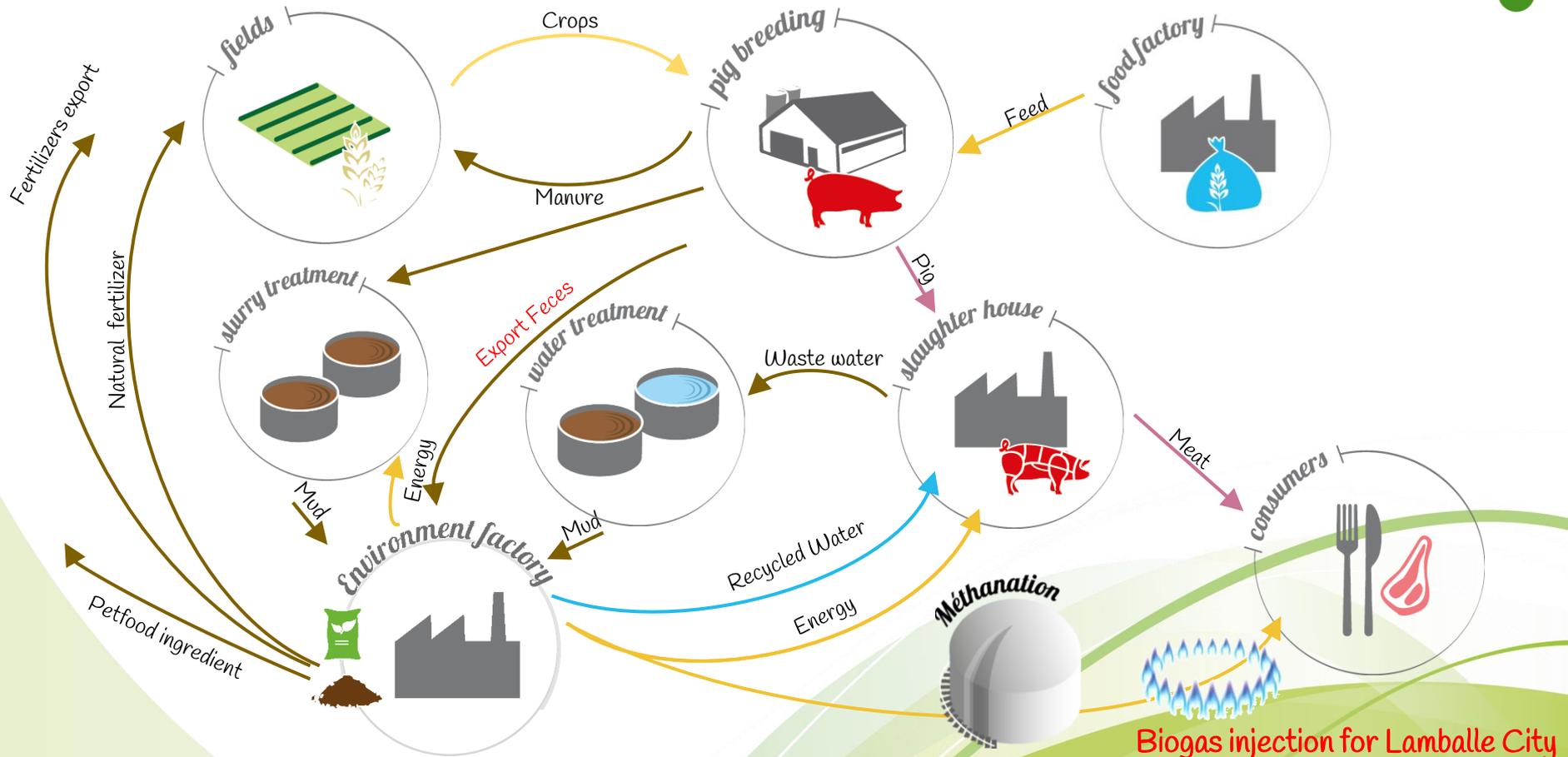




» Producing renewable energy and added value products:

- **RENEWABLE ENERGY PRODUCTION**
 - 200 000 tonnes of steam produced from biomass and intern biofuel
 - Heat used for Coopel food and environment industry
- **BIOFUEL PRODUCTION**
 - 12 500 tonnes of biofuel produced from food industry fatty waste
- **SMELL MANAGEMENT**
- **PETFOOD and AQUAFEED INGREDIENT**
- **RECYCLED WATER**
 - 1 400 000 m3 of waster water
 - 60% of the water is recycled and used for external use and non-food industry

2 Next Cooperl pig production cycle

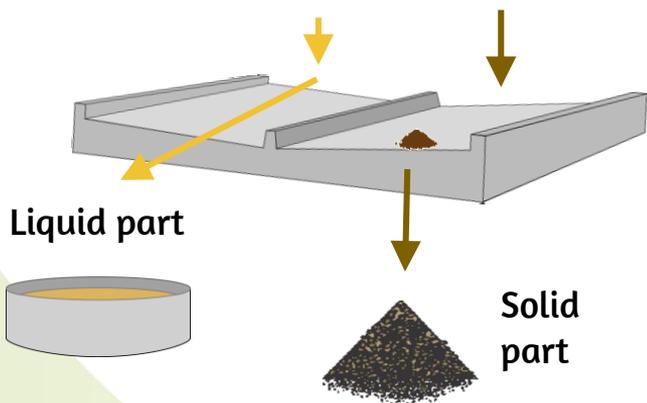


TRAC system



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» Cooperl develop technologies to improve the value of the manure transferred to the industry.



- » **Multiples benefits for farmers**
 - Reduce the spraying surface (export of solid part)
 - Participate to recover the P, N and OM
- » **Increase the animal welfare**
 - Decrease 50% of NH₃ emissions
- » **Available for existing builings**

To conclude



- » All by-products from the pig industry are valorized as added-value products or as energy.
- » Cooperl can create added-value thanks to its centralized position and industrial management.

Main advantages:

- Control the cost
 - Comply with European sanitary regulation
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- » To be sustainable, the system has to be built between farms and industries.
- Farms provide by-products raw materials.
 - Industries provide innovative technologies.
 - Farms and industries share cost and benefits of a circular system.



Cecile CRESPEL
ccrespel@cooperl.com

Thank you
for your attention !

