

Cooperl

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“Mest, het bruine goud”

TO PROUDLY FARM TODAY AND TOMORROW

and **TODAY...**

Cooperl

600 differents
OCCUPATIONS



13 MILLIONS
consumers worldwide each day in
over 50 countries



A cooperative group with
7,400 EMPLOYEES
of which over 4 700 in Brittany and
more than 100 in China

2 950 FARMERS
cooperative members

5.6 MILLION PIGS
bred annually



40%
of our pig meat production is
antibiotics-free

No.2 IN FRANCE
in the pig meat
transformation sector

€2.8 BILLION
turnover un 2021

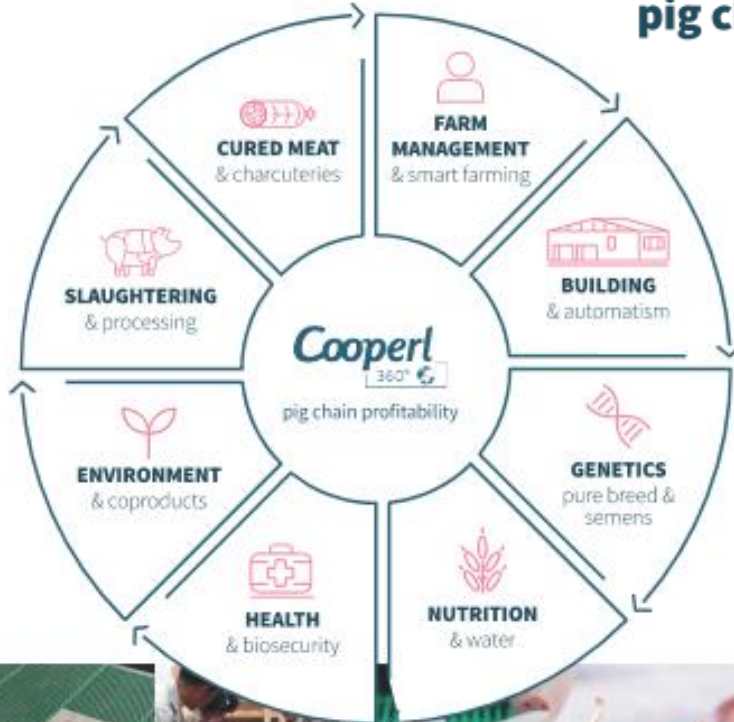
€86 MILLIONS
invested each year

100% of share capital
held by our members

And **TODAY...**



A unique 360° approach to the pig chain



Products that
meet your
needs and the
strength of a
multiskilled
team!



COMMITMENTS TO...

∴ ...its members, employees, customers, the environment and territories

360° PIG CHAIN PROFITABILITY



Making farming sustainable



Building relations with consumers based on trust



Production that respects the **environment** and animal **welfare**



Developing talent and **know-how**



Actively contributing to the **dynamism of our regions**



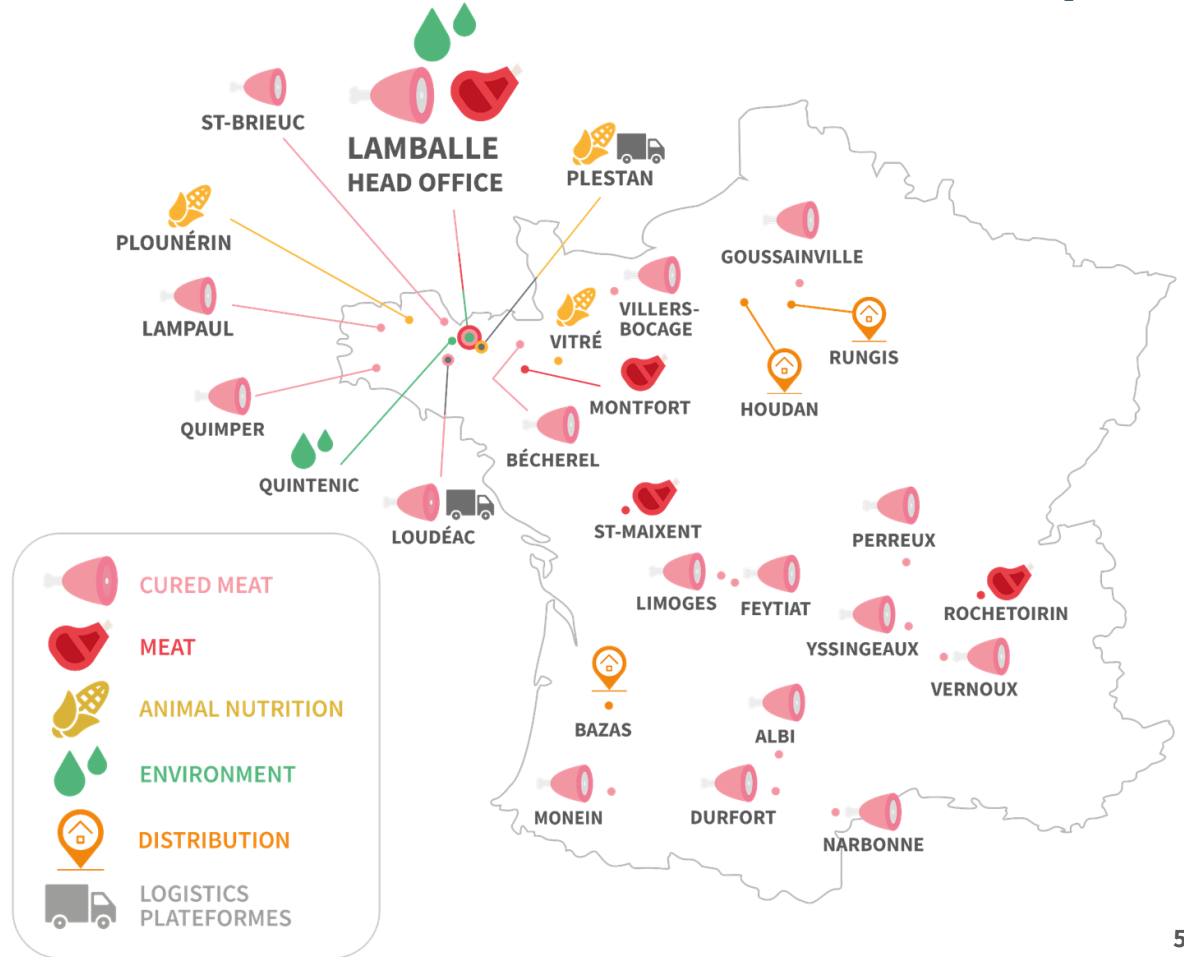
31 INDUSTRIAL SITES

& 8 CALIPRO RETAIL
OUTLETS

& 75 BUTCHER'S SHOP

& 16 FARM SHOPS

& 9 PIGS BREEDER
GROUPING ZONES IN
WESTERN FRANCE



AN INTERNATIONAL PRESENCE...



Cooperl Group distribution Network



We have our own offices in : China, Russia, Holland, Vietnam, Thailande, Taiwan, Philipines, Canada

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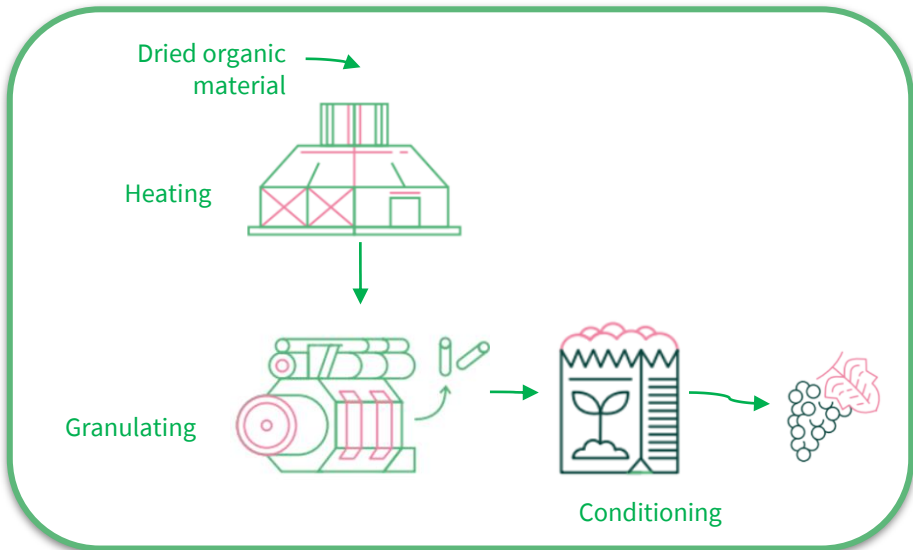
Hi-tech environmental solutions

TO PROUDLY FARM TODAY AND TOMORROW



-
- :: 2000 employees;
16 for research & development department
 - :: 350 000 tonnes of by-products treated / year
 - :: 350 000 m³ of water recycled / year
 - :: 300 millions € invested during 30 years

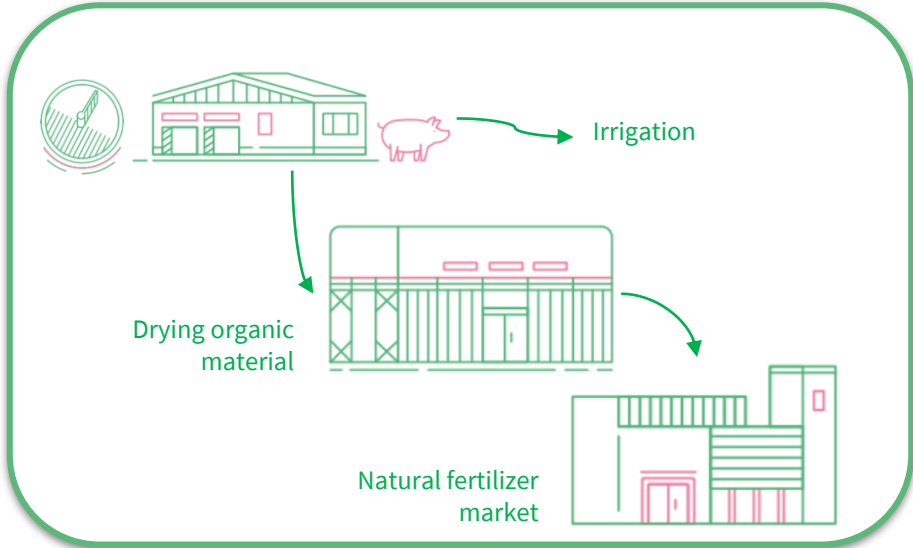
Fertival: how to feed the soil where it needs it



- :: Fertival sell 50 000T organic and natural fertilizer
- :: 230 products
- :: International market. Grape vine, fruit trees, gardening market...

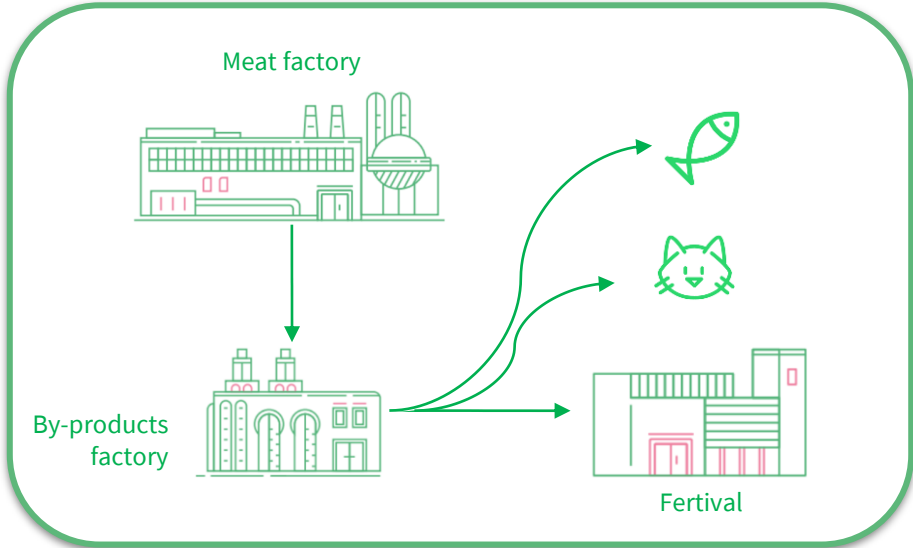


90's-Dénitral: how to reduce the environmental impact of slurry



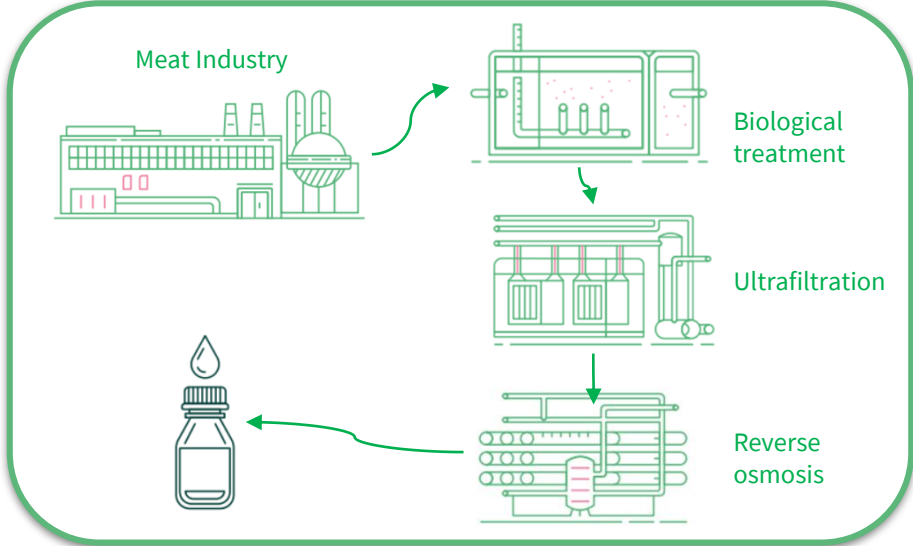
- :: 69 stations
- :: bacterial reaction → separation between liquids and solids
- :: liquids → irrigation
- :: solids: dried then compacted to produce organic fertilizer

By-product: valorisation of the pig's "fifth quarter"



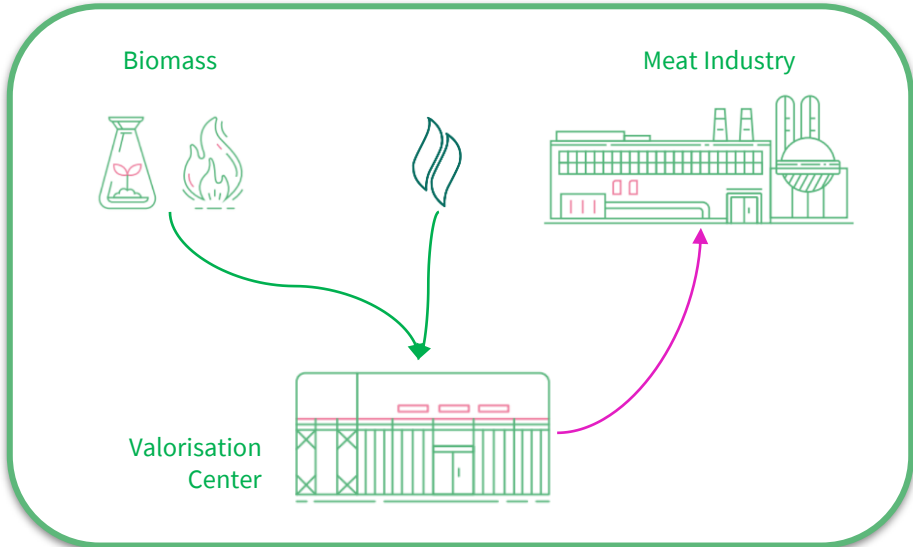
- :: fifth quarter: bones blood guts and pig fur
- :: 12 000 T of proteins powder and 5 000T of bones fat
- :: Petfood and aquaculture markets
- :: Go to the fertilizer industry for organic products

Water recycling: an important issue for the next few years



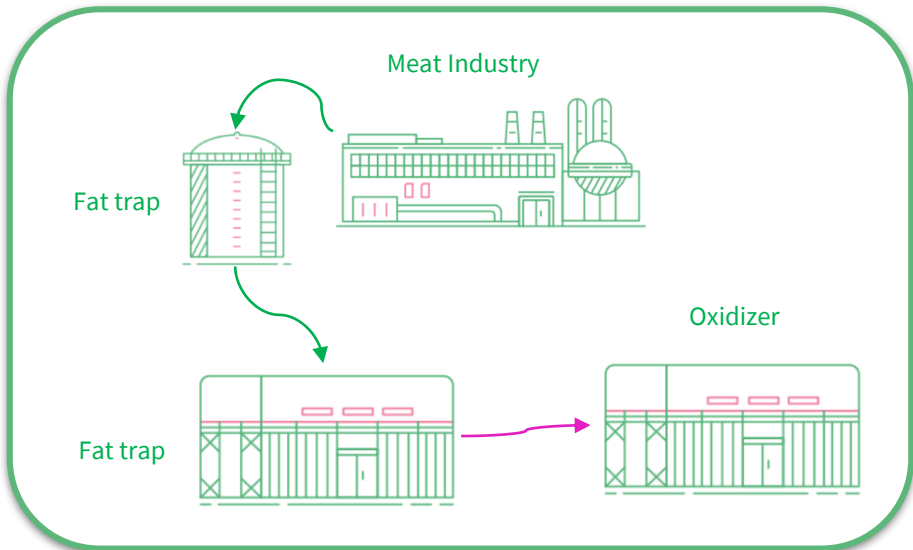
- :: Cooperl station can treat 850 000m3 / year
- :: Ultrafiltration treatment → to clean trucks
- :: Reverse osmosis → as clean as drinkable water
- :: Up to 60% of recycled water in our circular economic model

Valorisation center: how to produce water steam from biomass



- :: Incinerator (like fireplace) 100 000T of water steam /year
- :: Thermal oxidizer (boiler): 145 000T of water steam /year
- :: Biomass valorisation

“Combioval” factory: how to produce biofuel from fat trap

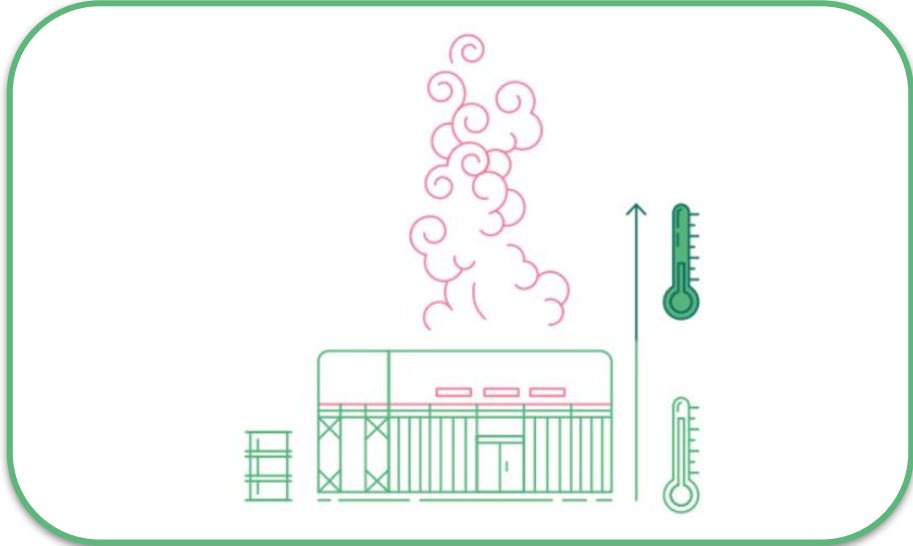


- :: Fat trap from food industry
- :: Instead of burning gas, we use biofuel from fat trap

We create values from all of our by-products



Heating our industry with our hot water circle

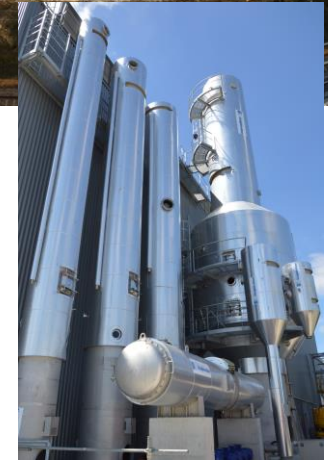
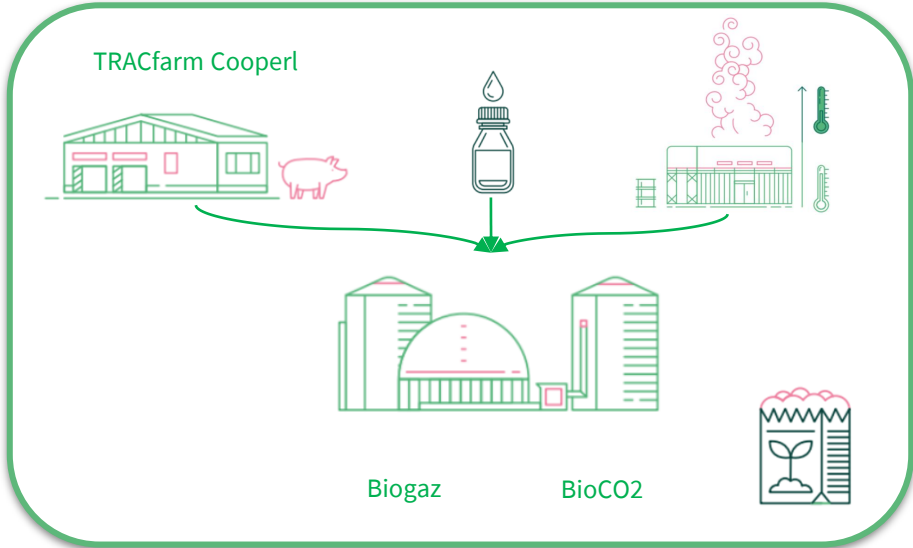


:: 4.5 km of pipe

:: water at 85°C

:: Like a central heating but without boiler

Biogaz et BioCo2 production with our methanizer



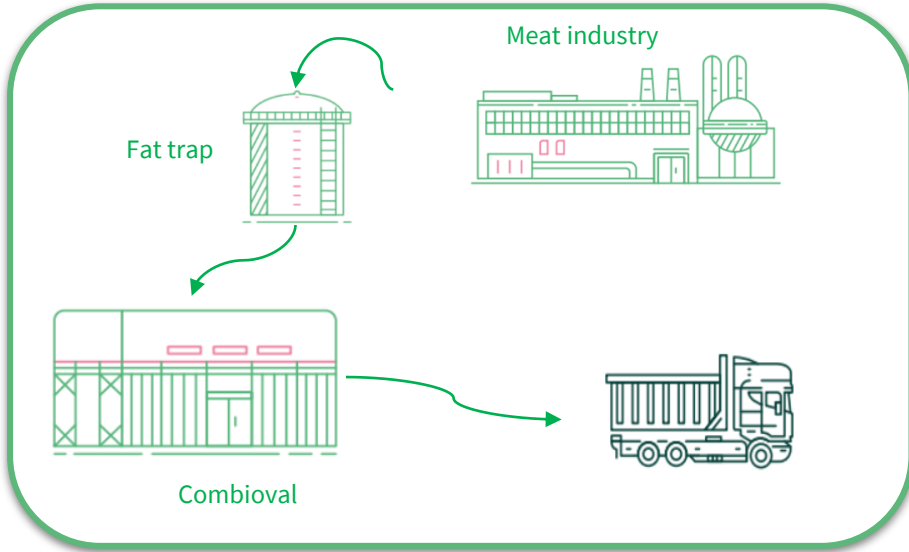
:: TRAC technology → organic material with a higher level of methane

:: 7.7MW

:: The biggest european methanizer free of agricultural spreading

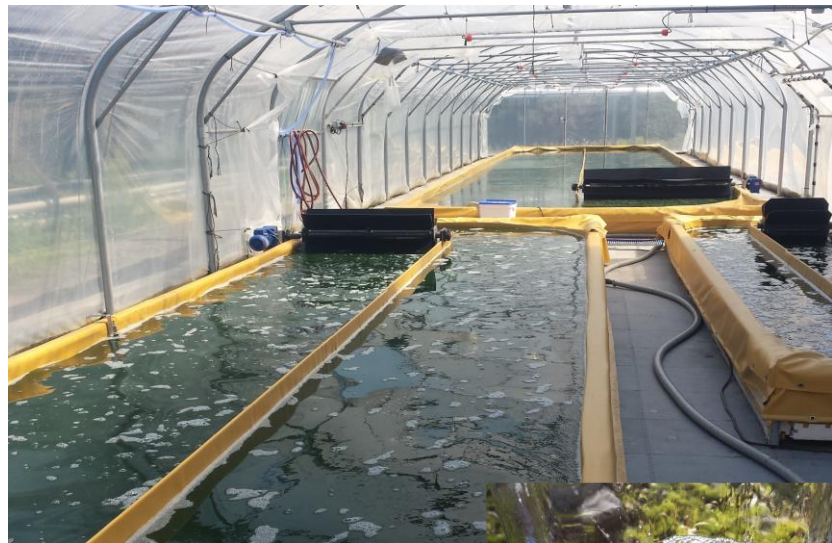
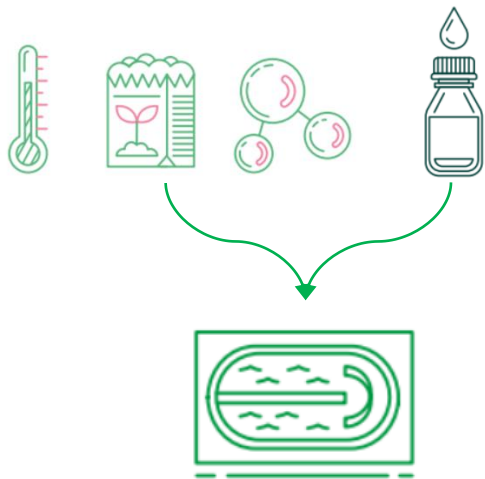
:: Next step: BioCO2 production from methane purification

Biodiesel production from fat trap



- :: Food industry: fat trap production
- :: Cooperl 1 000 vehicles and 250 trucks
- :: Next step: a new production of 20 millions L of biodiesel
- :: Advanced biodiesel can completely replace diesel.

Microalgae production thanks to our renewable energy



- :: Using heat, water steam, CO2 and nutrients
- :: Phycocyanin extraction from Cooperl spirulina
- :: Food supplements for drugstores market

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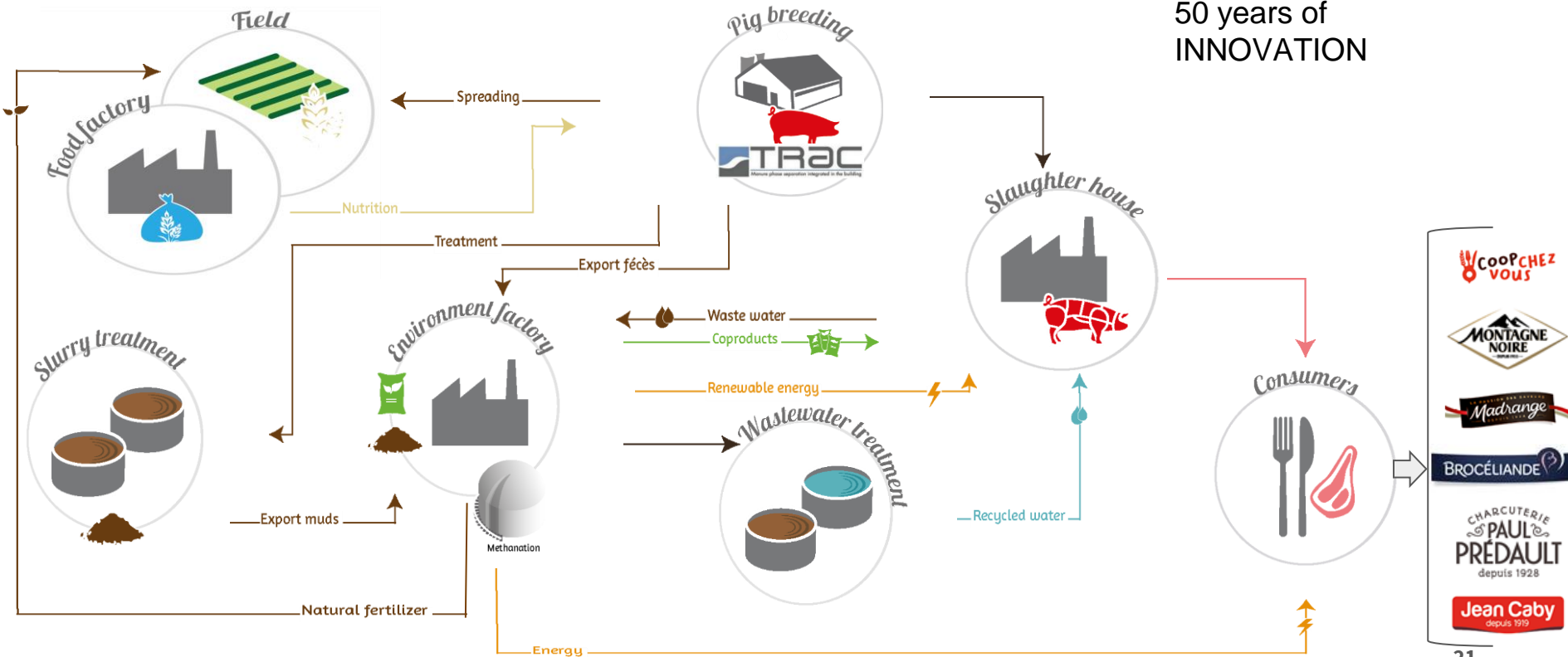
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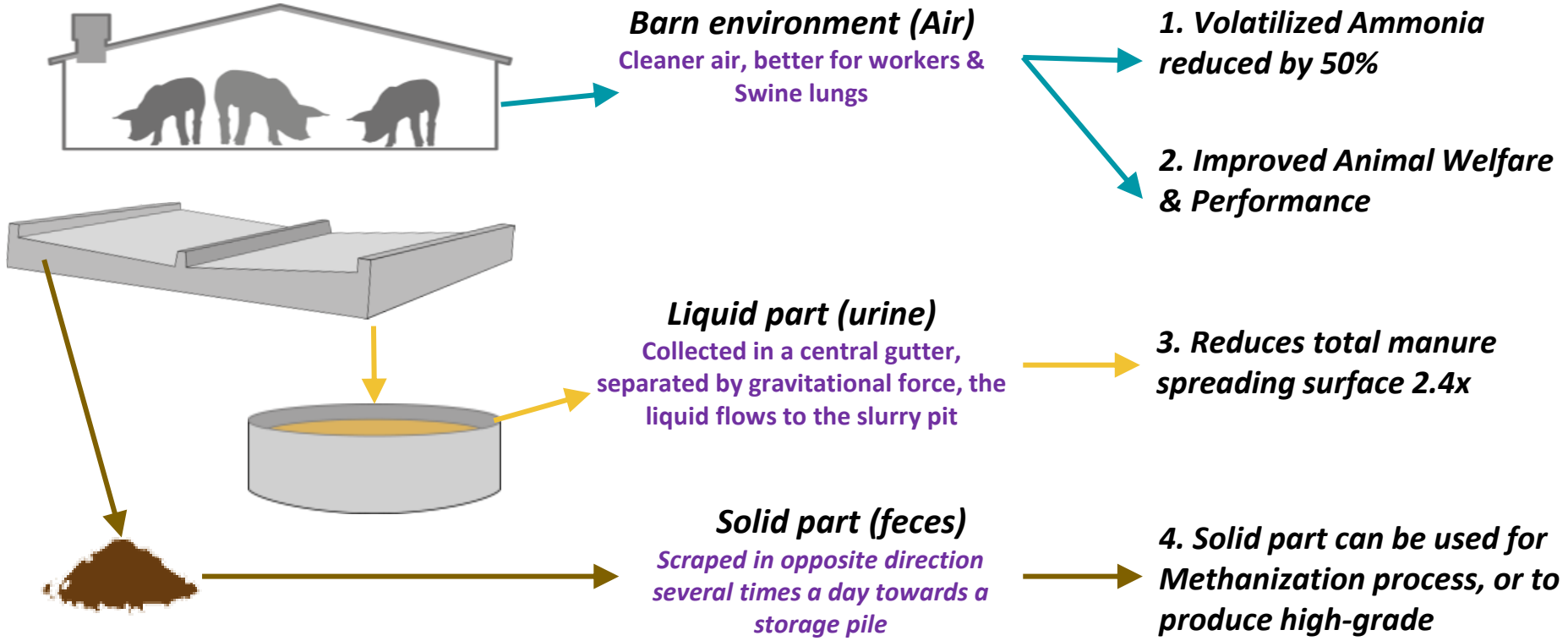
TRAC system – The Scraper

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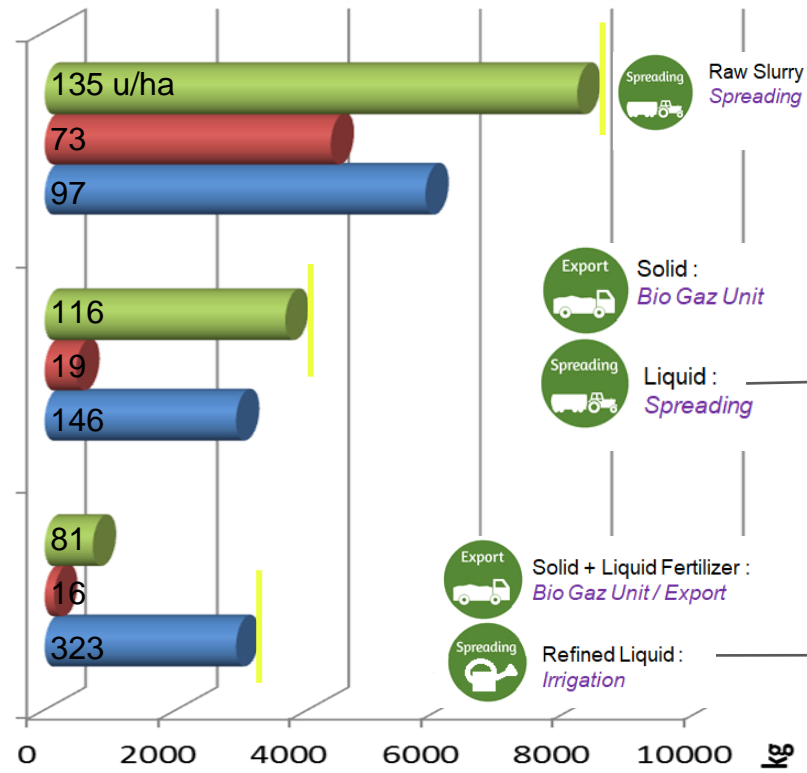
50 years of INNOVATION



4 benefits of a TRAC -system, the separation of solid and liquid parts prevents formation of Ammonia



Concentration per Ha



1

Classic farm without slurry treatment

2

Farm equipped with V manure scraping (TRAC)

3

Farm equipped with V manure scraping (TRAC=) + stripping



Raw Slurry : Spreading



Solid : Bio Gaz Unit



Liquid : Spreading



Solid + Liquid Fertilizer : Bio Gaz Unit / Export

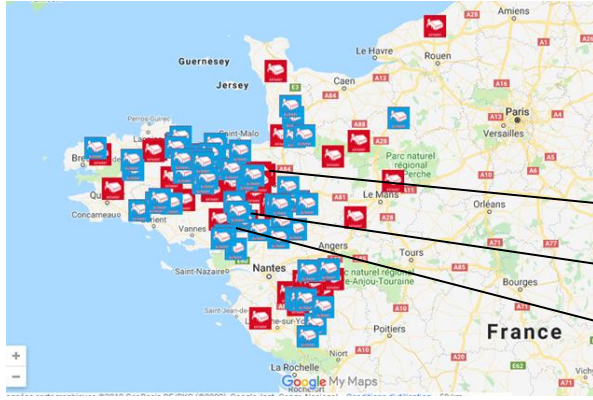


Refined Liquid : Irrigation

■ N Nitrogen
■ P2O5 Phosphorus pentoxide
■ K2O Potassium oxide

Limiting factors

Trac System is in use in 97 farms in France, a proven concept



From 2012 we've installed TRAC in farms with :

- ❖ 100 000 fatteners
- ❖ 12 000 post-weaning
- ❖ 3 200 gestation
- ❖ Chinese farm GGP farm



TRAC has reduced :

7544 T of CO₂ per year including Biogaz

Cooperl GGP farm in China with TRAC (Henan Province / -20°C)

To Resume : TRAC is the answer !

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- **Reduce** of **ammonia** emission by **50%**
- **Antibiotics free** production : **benefits** on **animal welfare** & **work pleasure** (pigs lung health, and human comfort smell)
- Combine with Biogaz, TRAC **reduce** around **83kg of CO2 emissions** per produced pig
- **Less volume** of manure for **better methane performances**
- Solution for **future environmental regulations** regarding GHG-emissions: NH3, P2O5....
- **100%** of TRAC users are **satisfied**



How to reduce GHG emissions ?



Frequent scraping



CH4 reduction in the building

Split liquid and solid
(CH₄ improvement)
-45% NH₃ reduction
-49% N₂O reduction



BioGaz Plant

Anaerobic digestion

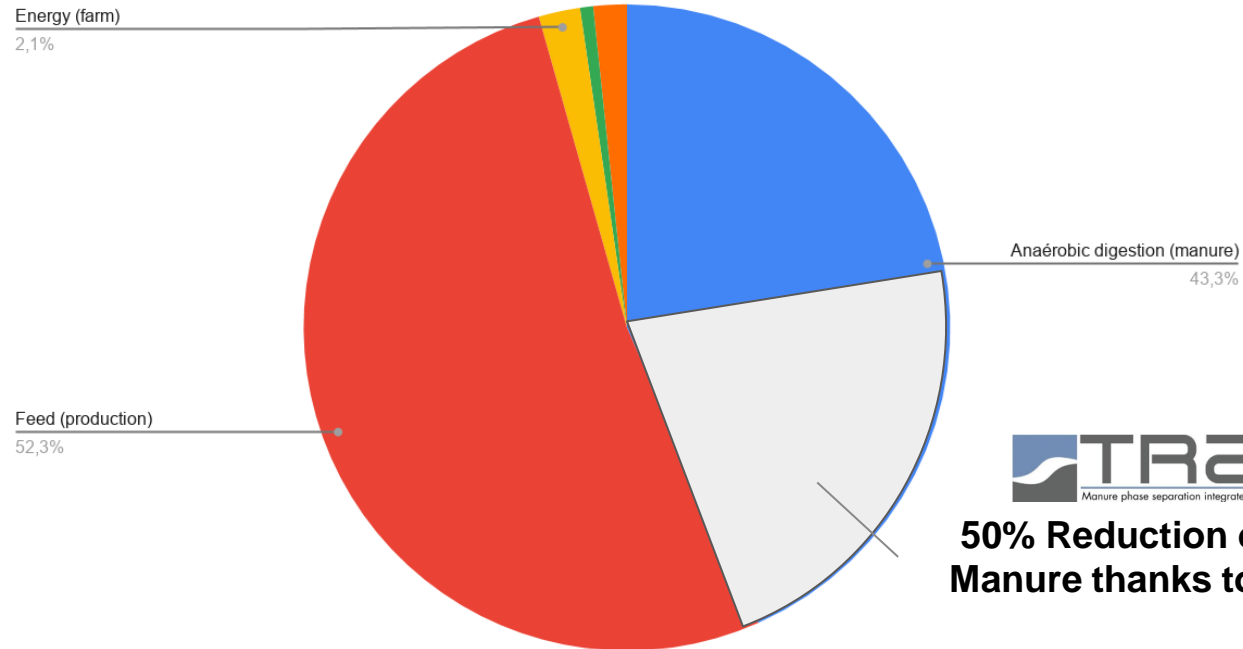


CH4 reduction in the pit

Reduction of fossil energy consumption (CO₂ reduction)

How does TRAC benefits your Carbon footprint

GHG emissions / kg french pork



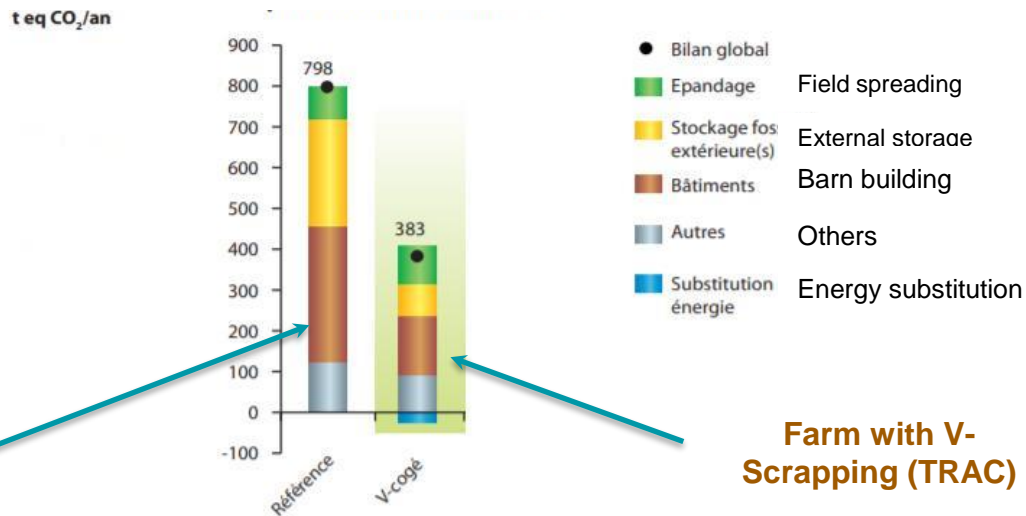
50% Reduction of GHG Manure thanks to TRAC

+ Reduction of transport

Trac reduces up to 50% of GHG emissions formed by manure

For example: 170 tons of CO₂ reduction annually for a 200 sows farm for the building only

Carbon emissions yearly, for barns with different manure treatments



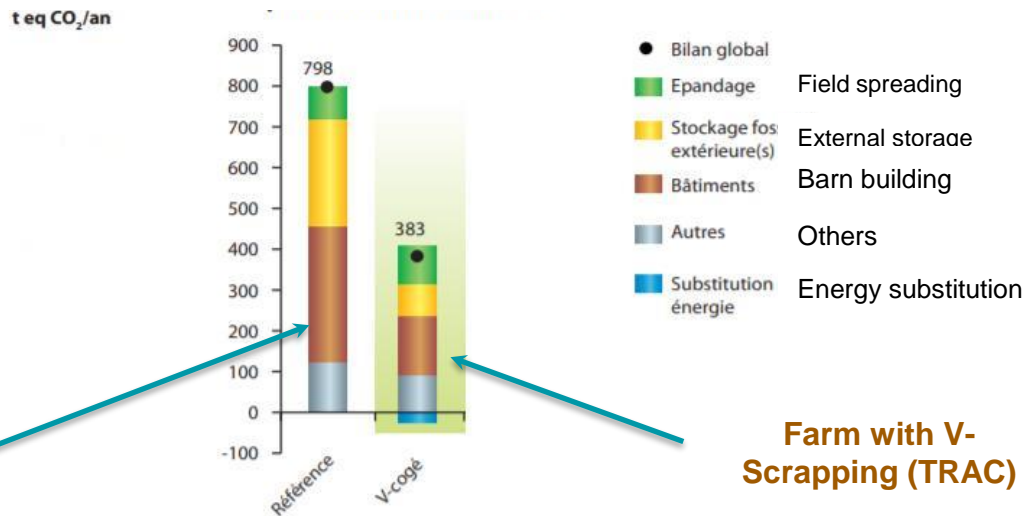
**Conventional swine farm :
pit under the floor**

Farm with V-Scraping (TRAC)

La petite méthanisation réduit les émissions de GES d'un élevage de porc de 20 à plus de 50 % selon les options retenues.

The TRAC system + BIOGAZ reduces by 50% the GHG emissions : 415 tons of CO2 per year for a 200 sows farm

Carbon emissions yearly, for barns with different manure treatments



**Conventional swine farm :
pit under the floor**

Farm with V-Scraping (TRAC)

La petite méthanisation réduit les émissions de GES d'un élevage de porc de 20 à plus de 50 % selon les options retenues.

How does TRAC helps you:

- ❑ **TRAC reduce up to 34 kg of CO₂ per produced pig**
- ❑ **TRAC + BIOGAZ reduce up to 83 kg of CO₂ per produced pig**
- ❑ solution for future environmental regulations regarding GHG-emissions: NH₃, P₂O₅....
- ❑ 100% of TRAC users are satisfied
- ❑ Others benefits animal welfare & work pleasure (pigs lung health, and human comfort,smell)

For more than 20 years Cooperl has developed several complementary tools in order to recycle « wastes » from industry and farm to create values

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Questions?

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