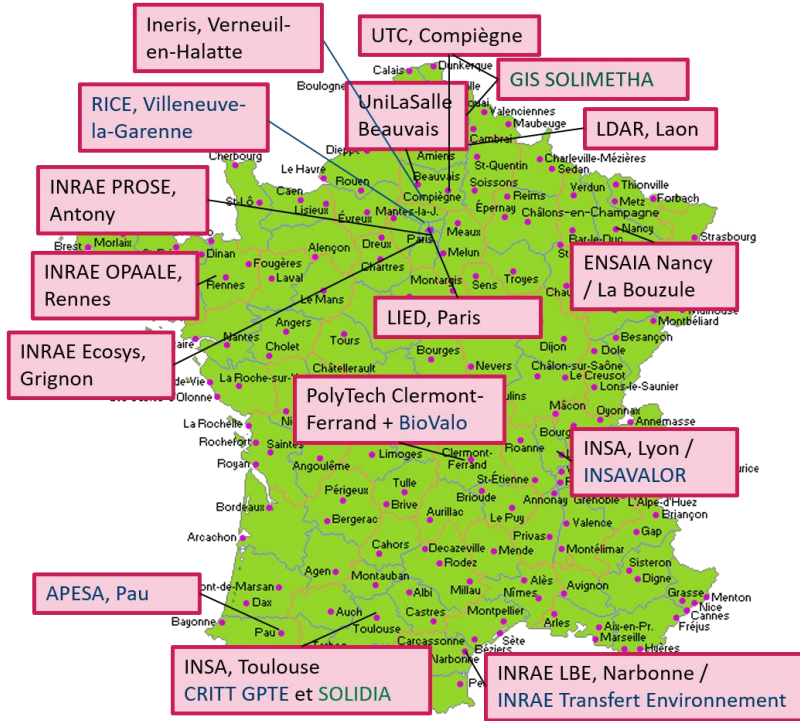


# Anaerobic digestion: impacts and uses at local scale

Alice L'HOSTIS

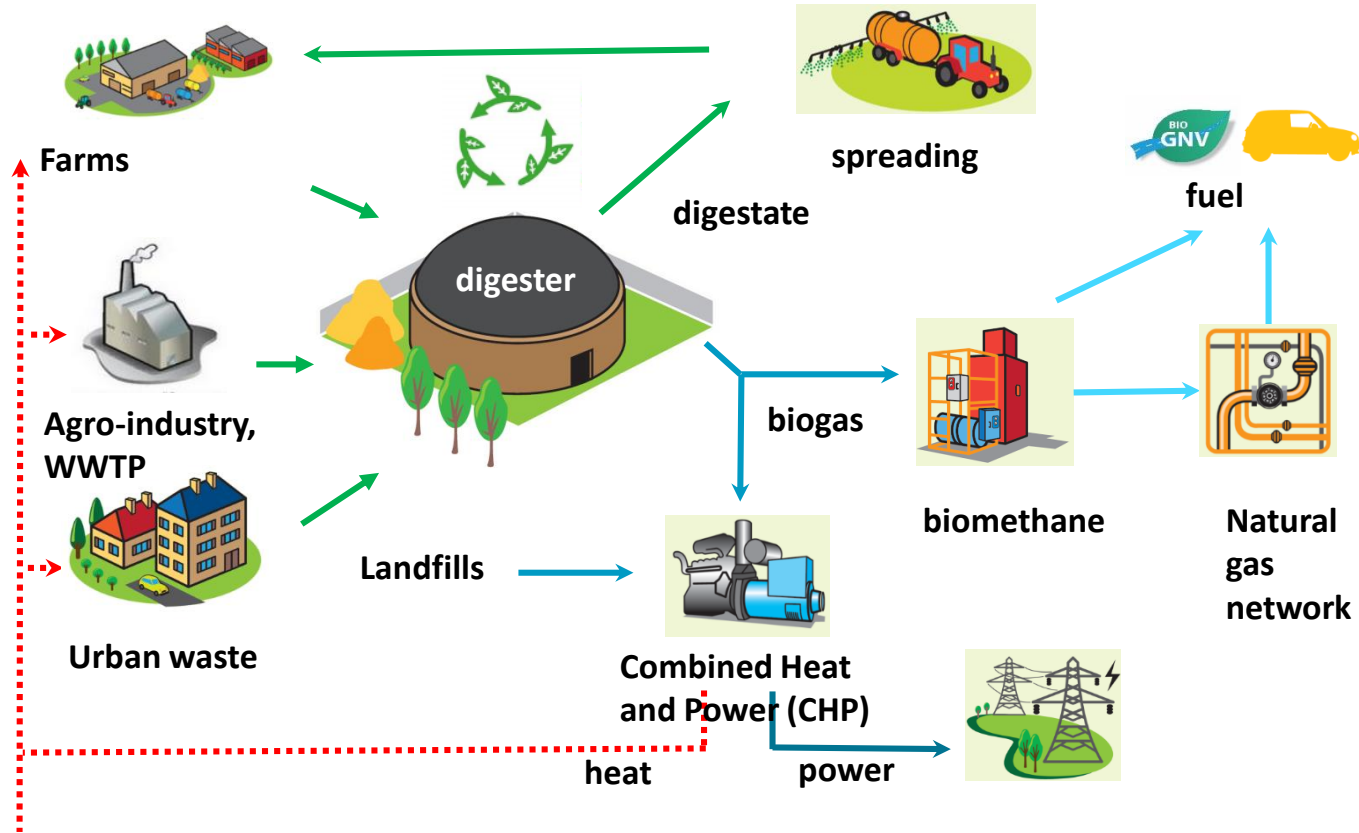
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- National research network
- Leads knowledge diffusion ([InfoMetha.org](http://InfoMetha.org), [webinars](#))
- Co-organises the [French research conference](#) (next in Lyon, 15-17 March 22)
- 2 running Task forces: Training and Biogeochemical cycles closing

# Anaerobic digestion: the basics





## Summary

- Economic activity
- CO<sub>2</sub> purification and uses in Biomethane plants
- Heat in Combined and Heat Power plants (CHP)
- Organic urban wastes handling

## French AD sector

- Varied and mature technologies
- 4000 jobs in 2018
- More than 500 companies: building, operation, services...

Biogas use	CHP	Biomethane
Plants on 30/06/21	903	282
<i>Capacity</i>	539 MW	5101 GWh/y
Production T1-T2 2021 (GWh)	1300	1826
Variation in production since 2020	+5%	+93%
Ongoing projects	?	1026
<i>Capacity</i>	?	22TWh/y

- A third of the jobs on the plants
- A way to keep young and industrial farmers' children in the farms
- Brings new revenues and new missions to farmers
- Supports agroecological transition: less mineral fertilizers, more cover crops, etc.

## Local heat networks

- Heat produced by CHP plants
- Lodgings, public services such as swimming pool, schools, etc.

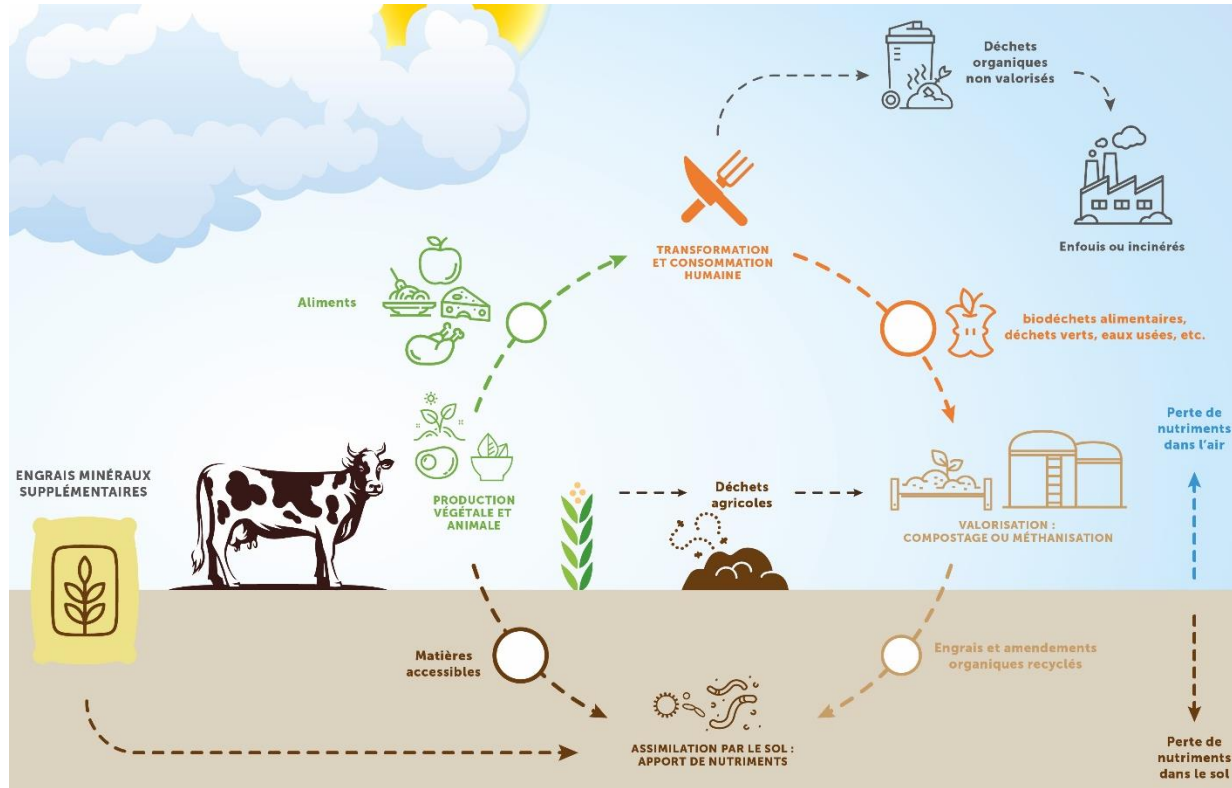
Have to be near the plant

- Heat produced all year long
- Helps local self-sufficiency

To read :

- P. Jutteau PhD thesis (in French, about German plants)

# Closing the nutrient loops to feed the world



- Manage organic urban waste to keep up farming yields while reducing mineral fertilizers (N, P)
- Source : « *Recyclons les nutriments de nos biodéchets* », CTBM, 2021, <https://atee.fr/actualite/nouvelle-brochure-du-ctbm-recyclons-les-nutriments-de-nos-biodechets> (in French)

## Organic waste handling in France: today and tomorrow

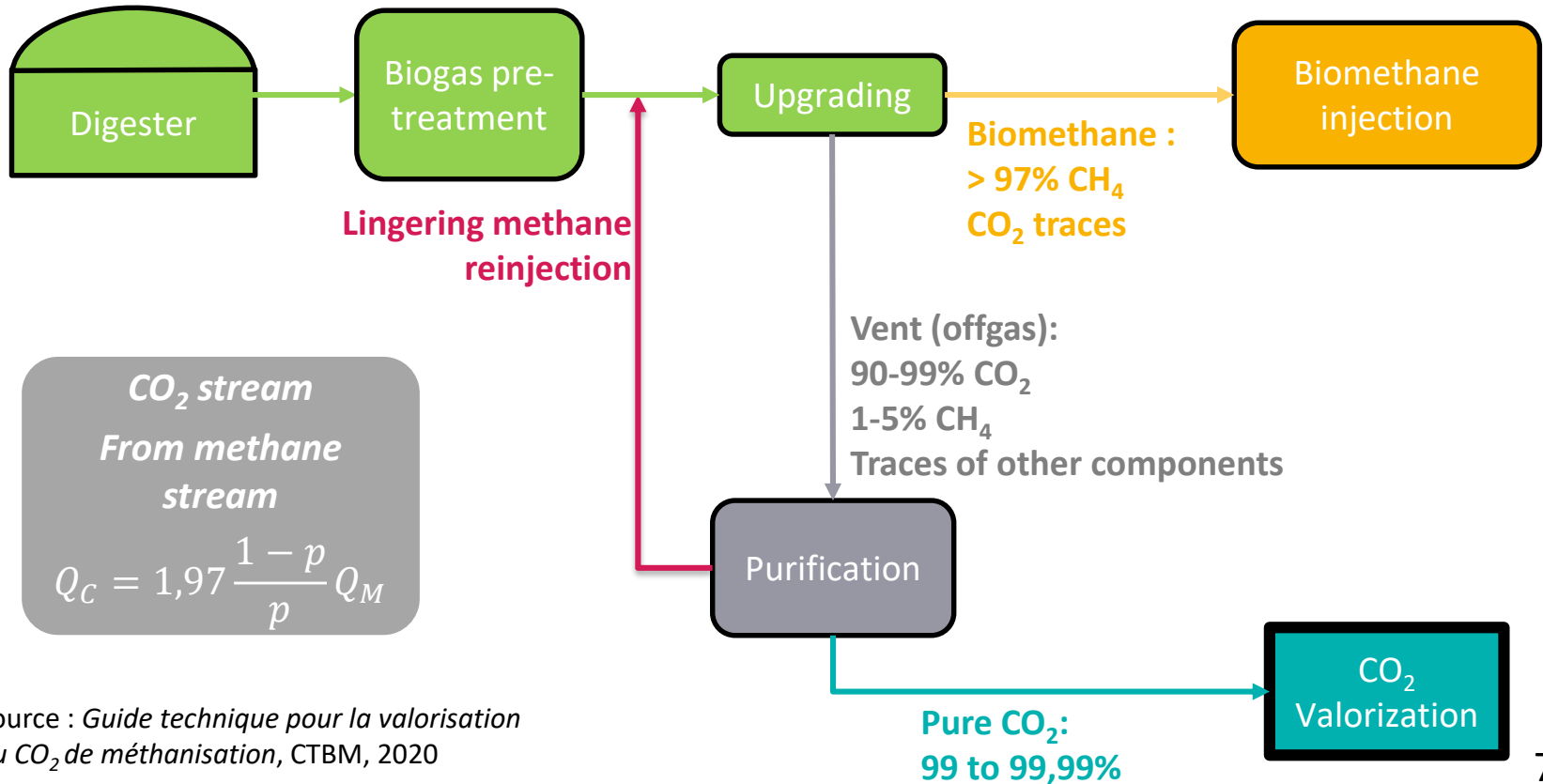
- 31/12/23: enforcement of source sorting for local authorities
- Currently, few places have a running system of OW collection; experiments are multiplying

AD position:

- Agricultural AD plants can receive some urban OW
- Requires good sorting habits from OW producers
- Can create or strengthen links between cities and food production
- Composting and AD are complementary to handle these streams



# CO<sub>2</sub> purification: principle



Source : Guide technique pour la valorisation du CO<sub>2</sub> de méthanisation, CTBM, 2020

# Opportunities



- Local material fluxes
- Gain self-sufficiency // national or global markets
- Could spur new industries (algae, greenhouses, etc.)
- Useful in agro-industry (stunning, conservation, beverages)

- Several plants in Europe
- 1 in France, running for a year
- [Check out our Publications](#) for more details! (in French)





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**THANK YOU FOR YOUR ATTENTION!**