



# ECO-PARK LA BARILLAIS



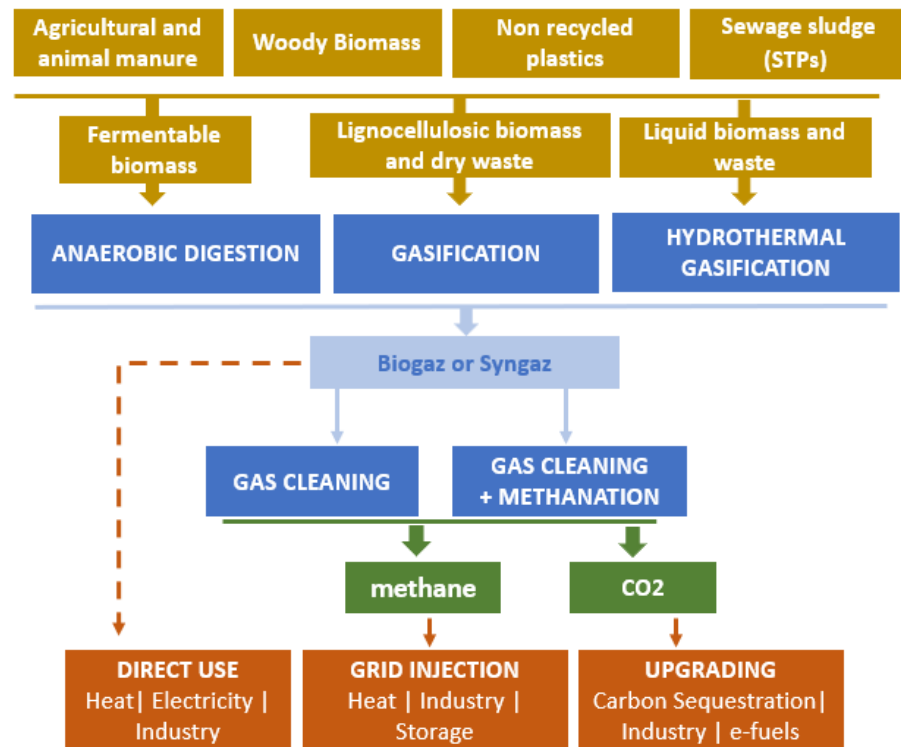
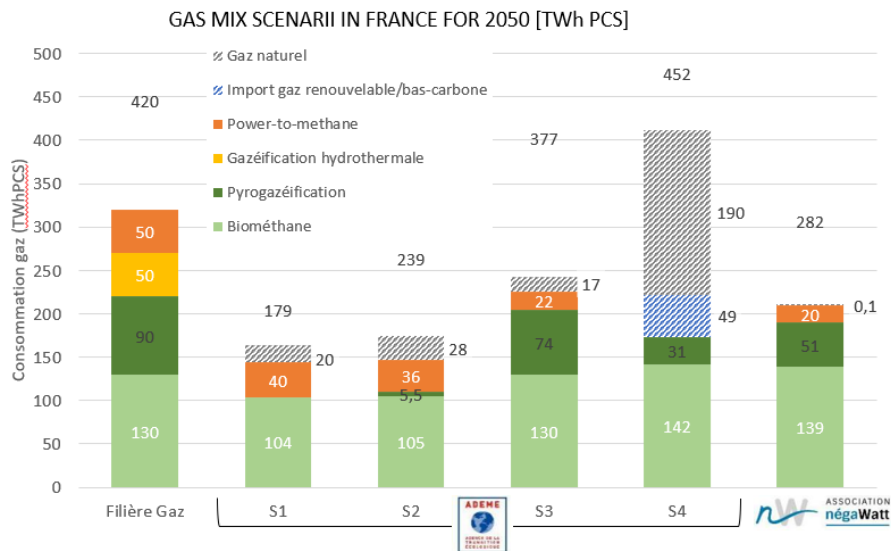
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*Pyrogazéification*

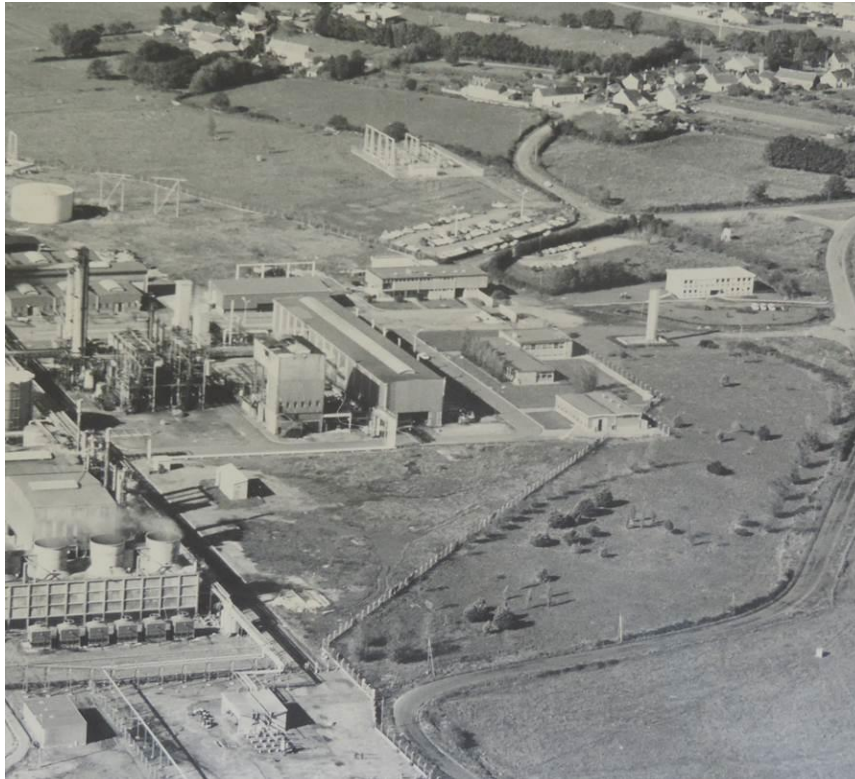
**IDEA**

# SYNERGY BETWEEN ANAEROBIC DIGESTION AND GASIFICATION

By 2050, a new renewable gas production technologies will add a biomethane potential to help achieving the objectives of carbon neutrality in France.



# 1970 : CHEMICAL FERTILIZER PLANT



# 2012 : A FIRST STEP TOWARDS THE ECO-PARK

## UN ECOPARC



Number of photovoltaic panels installed  
**5000 m2**



Waste reprocessing  
**Wood recycling projects**  
**anaerobic digestion unit**



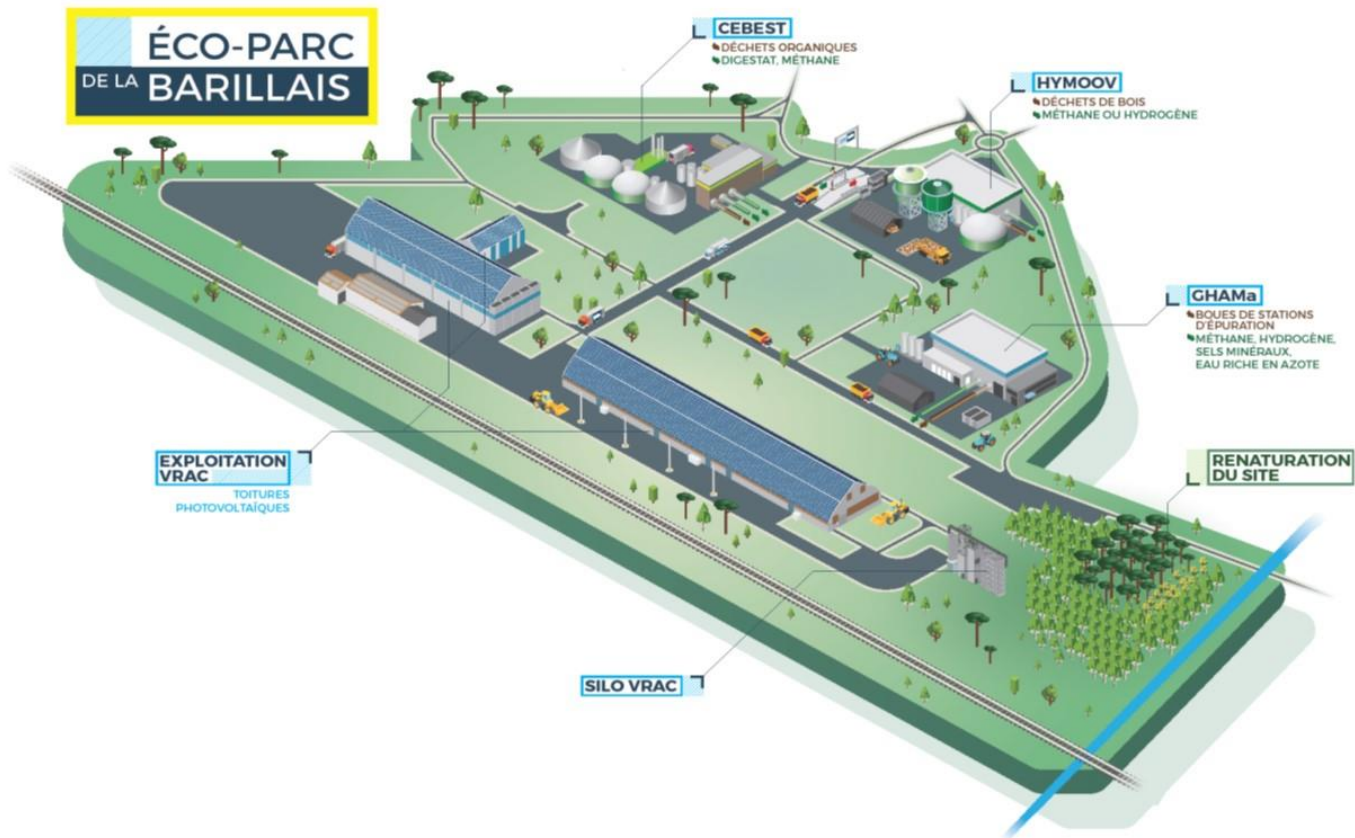
Sea, rail and road intermodality  
**The largest rail spur in Loire-Atlantique**



Site de La Barillais



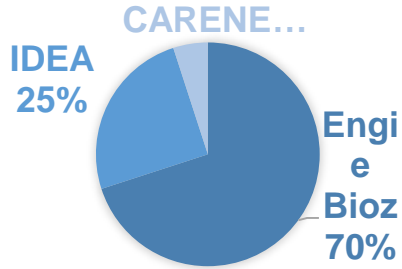
# 2025 : AIM OF THE SITE



# Anaerobic Digestion unit : Cebest

Commissioning in April 2022

## Shareholders



Inputs : Organic materials such as agricultural waste + agri-food waste



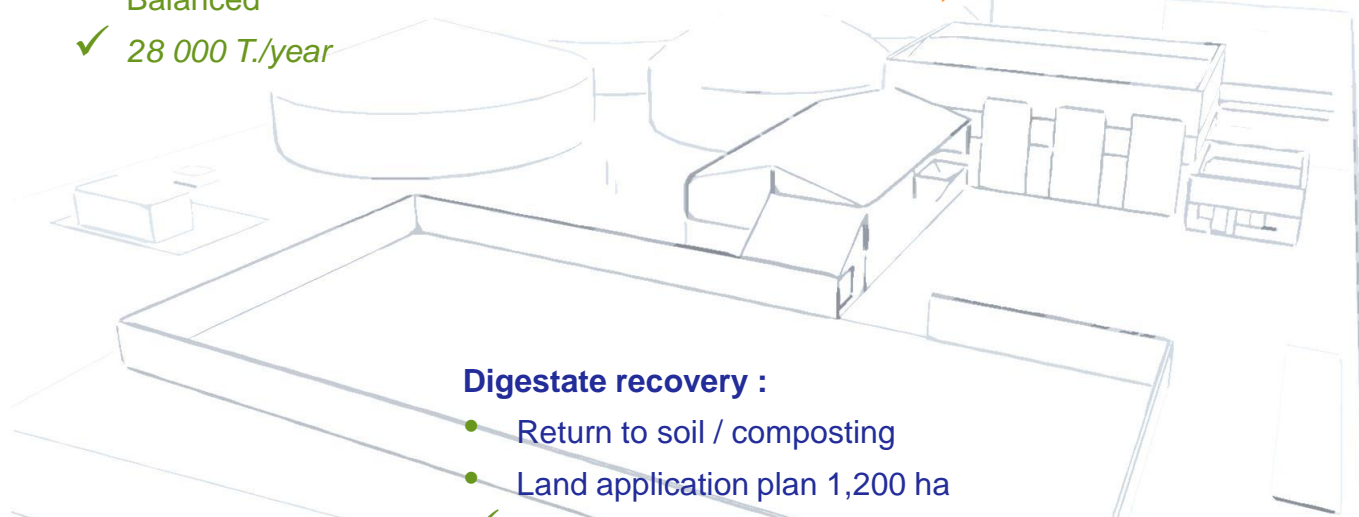
# Anaerobic Digestion unit : Cebest

## Organic matter deposits :

- Local (limiting transport)
- Diversified (project stability)
- Balanced
- ✓ 28 000 T./year

## Energy recovery :

- Continuous injection into the natural gas distribution network
- ✓ 2,3 millions de m<sup>3</sup> de méthane



## Digestate recovery :

- Return to soil / composting
- Land application plan 1,200 ha
- ✓ Around 25 000 T/an

HYMOOV

# Did you know that ?

**3** M tons/year  
of industry wood wastes  
in France



**Only 50 %**



of these wastes are valorised in France for  
wood



# And yet...

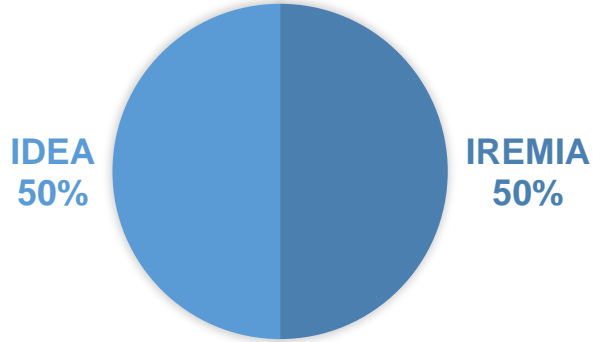
France is aiming for  
**neutrality carbon** in **2050** !



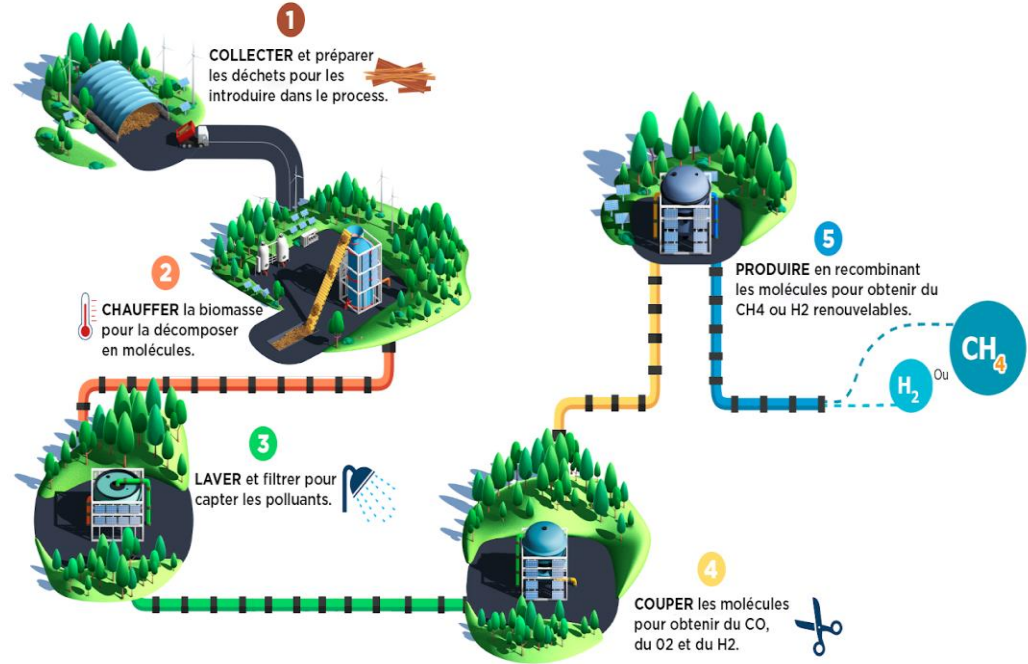
With strong objectives on the waste recovery rate...

# Gasification unit : HYMOOV

## Shareholders

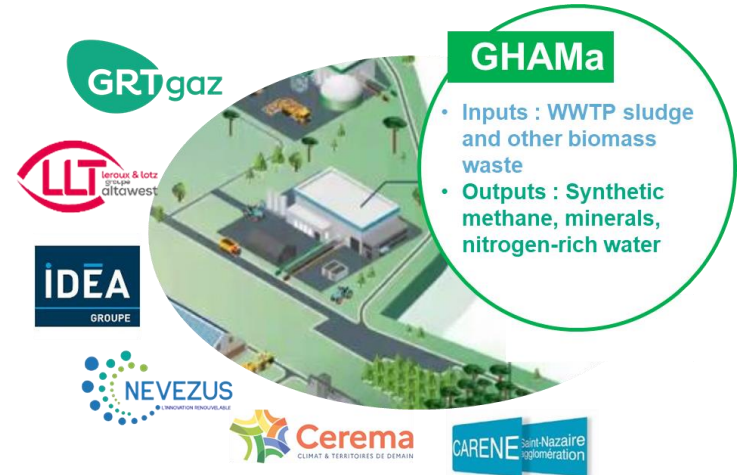


Inputs: wood waste B  
(treated wood / non-hazardous varnish)



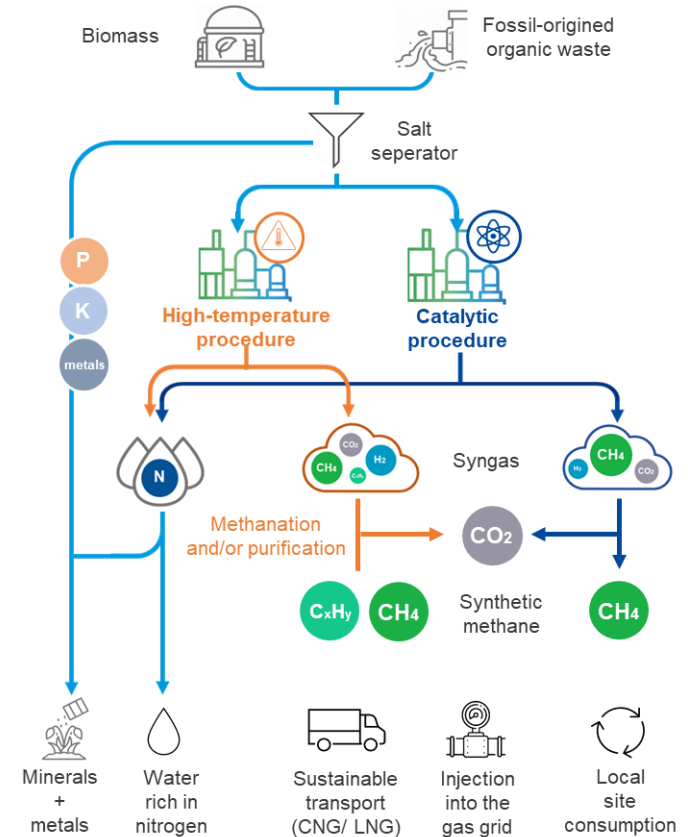
## Hydrothermal gasification unit : GHAMa

- GHAMa, the 1st industrial demonstration project in France currently under development
- HTG Technology developed by Leroux et Lotz Technologies
- Commissioning scheduled for late 2024/early 2025



# GHAMa

- **Input flow (sewage sludge and other biomass waste): 0.5 tons per hour**
- **The waste input must be pumpable: a sufficient viscosity is key**
- **Capacity of grid injectable gas production: 0.5 – 1.5 MWh/h (depends on the waste)**
- **Other output:**
  - **H<sub>2</sub> + CO<sub>2</sub>**
  - **Minerals + metals**
  - **Water rich in nitrogenP**
- **Planned surface area on site: 1 000 m<sup>2</sup>**



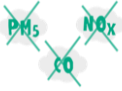
# Hydrothermal gasification : many Advantages



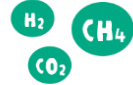
steep  
reduction of  
final waste



**Conversion**  
Carbon very  
high: > 90%  
(including  $\mu$ -  
plastics)!



No atmospheric  
pollutant (NO<sub>x</sub>,  
CO, fine particles)



Production of  
methane-rich  
injectable gas



Recovery and  
preservation of  
water, minerals  
and nitrogen



Metal and  
heavy metal  
recovery



Quick  
conversion  
time (1 to 10  
min)



Compact and  
modular  
installation



High energy  
efficiency  
from 75 to  
85%



Elimination of  
bacteria, viruses  
and pathogens

Very favorable  
GHG/LCA  
balance  
decarbonation

Low odor and  
noise pollution

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LOGISTICIEN D'EXPÉRIENCE  
ET PARTENAIRE ENGAGÉ  
AU SERVICE DES INDUSTRIELS

**iDĒA**