



# *French situation of AD and biogas valorization in 2008/09*

**Olivier THEOBALD**  
**Waste & Soil Division,**  
**French Agency for Environment and Energy**



## *News 08/09*

- **Creation of an “heat fund” - Grenelle of environment (start of the year 2008)**
  - To promote the RE-heat use in industry, building and agriculture
- **Report on development of on-farm AD (ministry of agriculture & fishery, and ministry of ecology)**
- **Study report of the French Agency for Sanitary Security, Environment and Work (october 08)**
  - Possibility to inject biogas from landfill, biowaste, agricultural and food-processing industry waste into the grid after cleaning and upgrading
  - Not possible presently for industrial waste and urban sludge
- **On-farm AD tender (ministry of agriculture and fishery, march 09)**
  - 10 M€ to promote new individual or collective projects
  - Subsidies : from 200 k€ (ind.) to 375 k€ (coll.)/project add. FEDER fund possible
  - 75 projects (?)



## *Heat fund*

- **Biomass : + 3,800 MToe/yr (5,200 MToe/yr in 2020)**
  - + 1,850 MToe plants > 1,000 Toe/yr
  - + 1,950 MToe others plants
  
- **2 systems**
  - Projects > 1,000 Toe/yr → choice after national consultation
  - Projects < 1,000 Toe/yr → general grants with selected conditions
  
- **Domains :**
  - Geothermal energy valorized with or without heat pumps
  - Solar thermal energy
  - Biomass energy from forest & agriculture – including biogas
  
- **With grants for new projects**
  
- **To obtain an energy price lower than 5 % of fossil energy price**



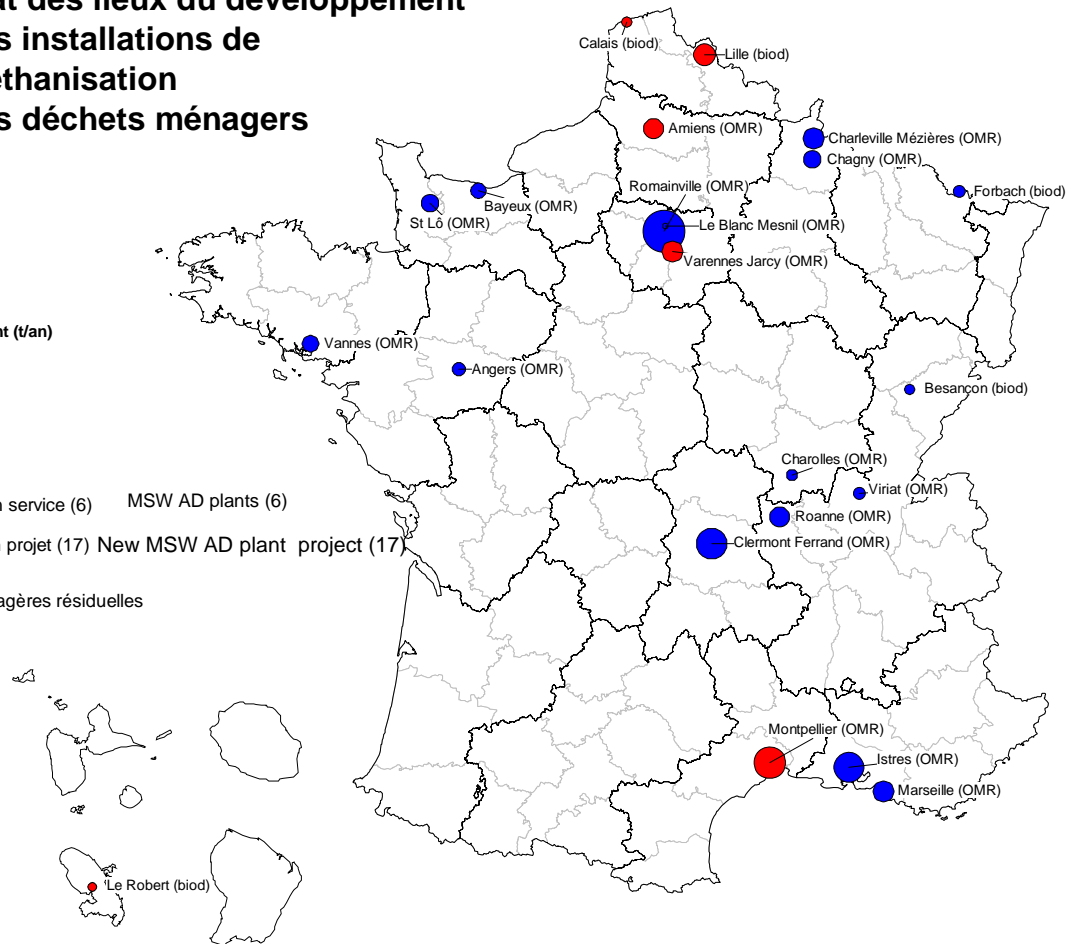
## Etat des lieux du développement des installations de méthanisation des déchets ménagers

Tonnage annuel entrant (t/an)



■ Installations en service (6) MSW AD plants (6)  
■ Installations en projet (17) New MSW AD plant project (17)

OMR = ordures ménagères résiduelles  
biod = biodéchets

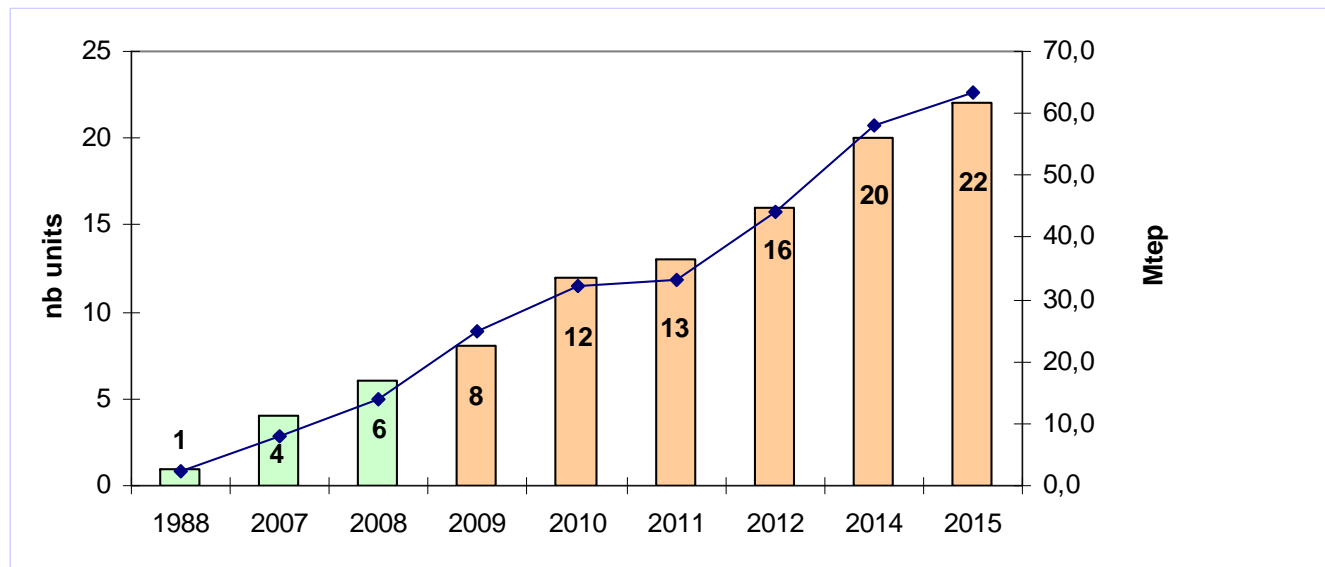


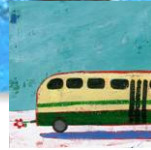
- Décembre 2008 -





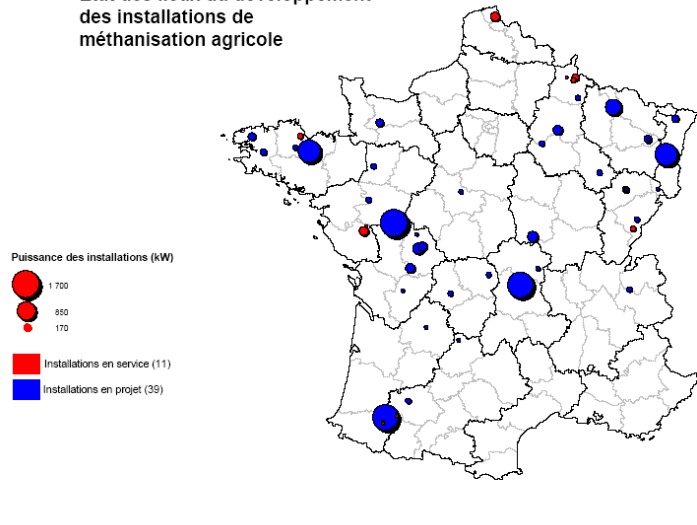
## *MSW AD units and projects until 2015*





## French On-farm AD

Etat des lieux du développement des installations de méthanisation agricole

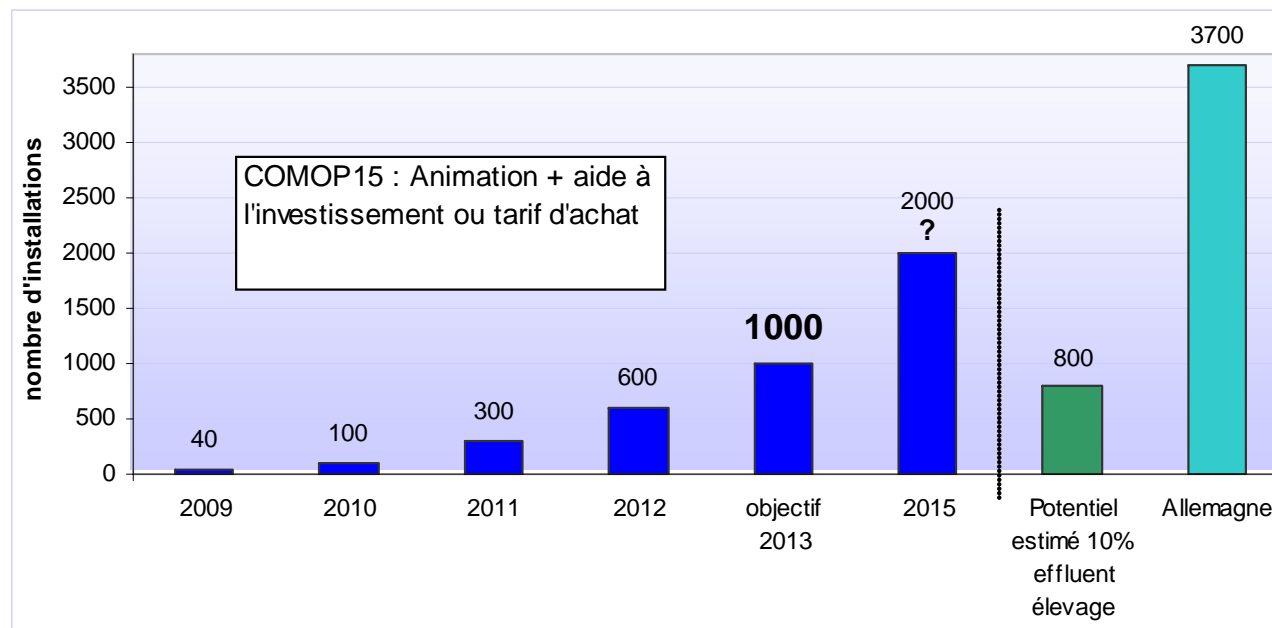


- Novembre 2008 -

- 11 plants
  - UASB : 9
  - batch (manure & slurries) : 2
  - codigestion slurry and IAA : 1
- treatment capacity : 60.000 T/y
- +50 projects in end of 2010 : 550.000 T/y
- electricity production : 17,5 GWh
- +50 projets : 200 GWh



## *On-farm AD in the future*



- 1000 units in 2013 (mean P= 200 kWél.)
- question : will the agricultural crops and waste be sufficient ?



## *ADEME studies*

### ■ 2008

- study of the use of energy crops on-farm AD projects : feasibility and profitability in the French situation  
results in october 2009
- writing an AD technical follow-up methodology  
results in the summer 2009
- follow-up of an on-farm batch process  
results in 2011 (3 years)

### ■ 2009 :

- start of a AD study market in France with biogas valorization (cofin. French Gas Grid Co.)  
results in the end of 2009
- start of a study about profitability of on-farm AD, with revision of feed-in tariff of electricity  
results in the end of 2009
- national work group (ministries, French Gas co., municipalities association, etc.) on injection of up-graded biomethane into the natural gas grid
- (to come) study about MSW biogas quality for up-grading into the natural grid





## *ADEME subsidies on on-farm AD projects in 2008*

- around 2 M€ subsidies
- 16 projects – capacity of OW : 200 000 T/y
  - 12 on-farm AD projects - 150 000 T/y (one = 80 000 T/y)
  - 4 food processing waste AD - 50 000 T/y
- Codigestion first
- GHP : 17 GWh
- Electricity : 13,7 GWh.