



EC Policy developments in Renewable Gases

Kyriakos Maniatis

**Energy Technologies Innovation & Clean Coal
DG ENER, European Commission**



Why Renewable Gases?

They are sustainable.

They offer very high GHG reduction potential.

They are versatile in logistics.

They can be used in all energy applications and biogas and biomethane technologies are commercially available.

They can be produced from a variety of resources including waste streams.



Policy framework for Renewable Gases

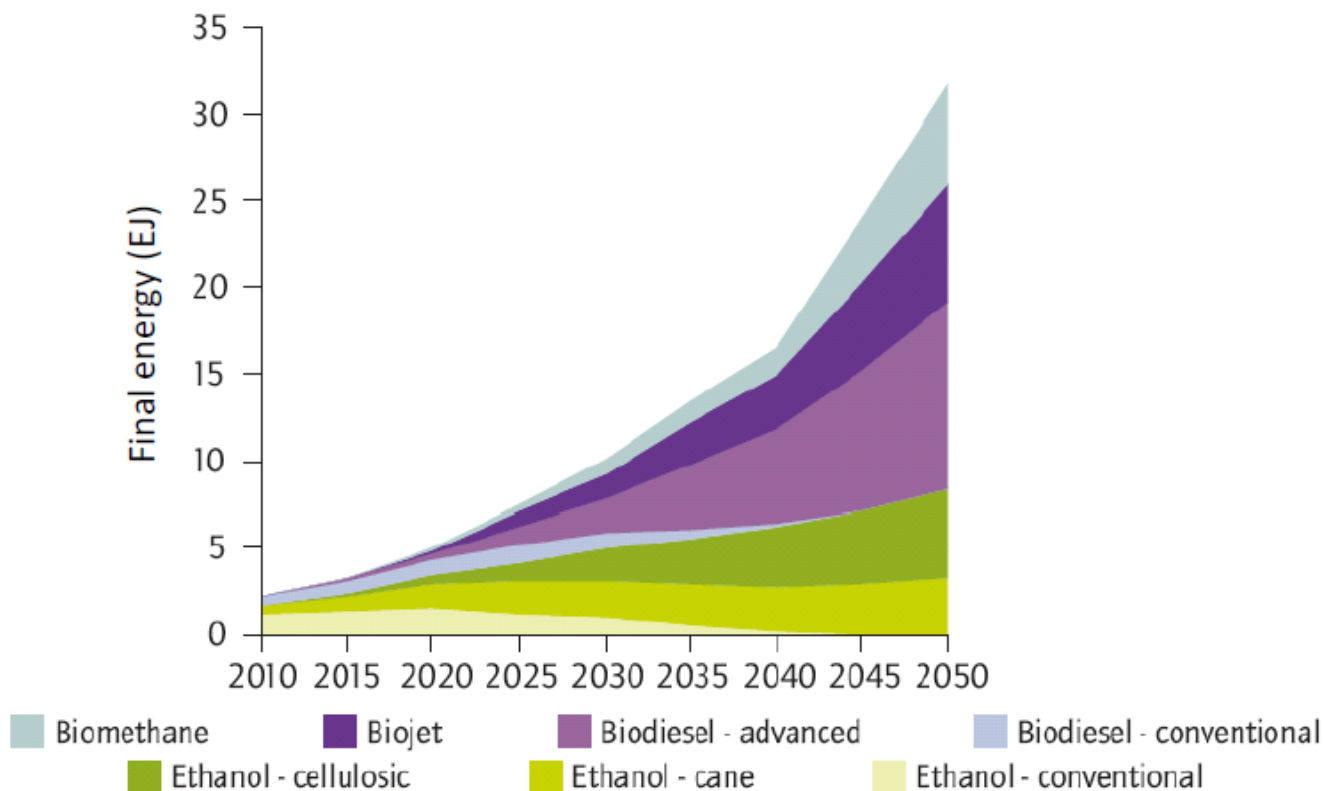
They are covered by the RED and FQD.

2030 - there are expectations for a stronger

role in:

- **Transport**
- **Heating applications, and,**
- **Balancing the grid**

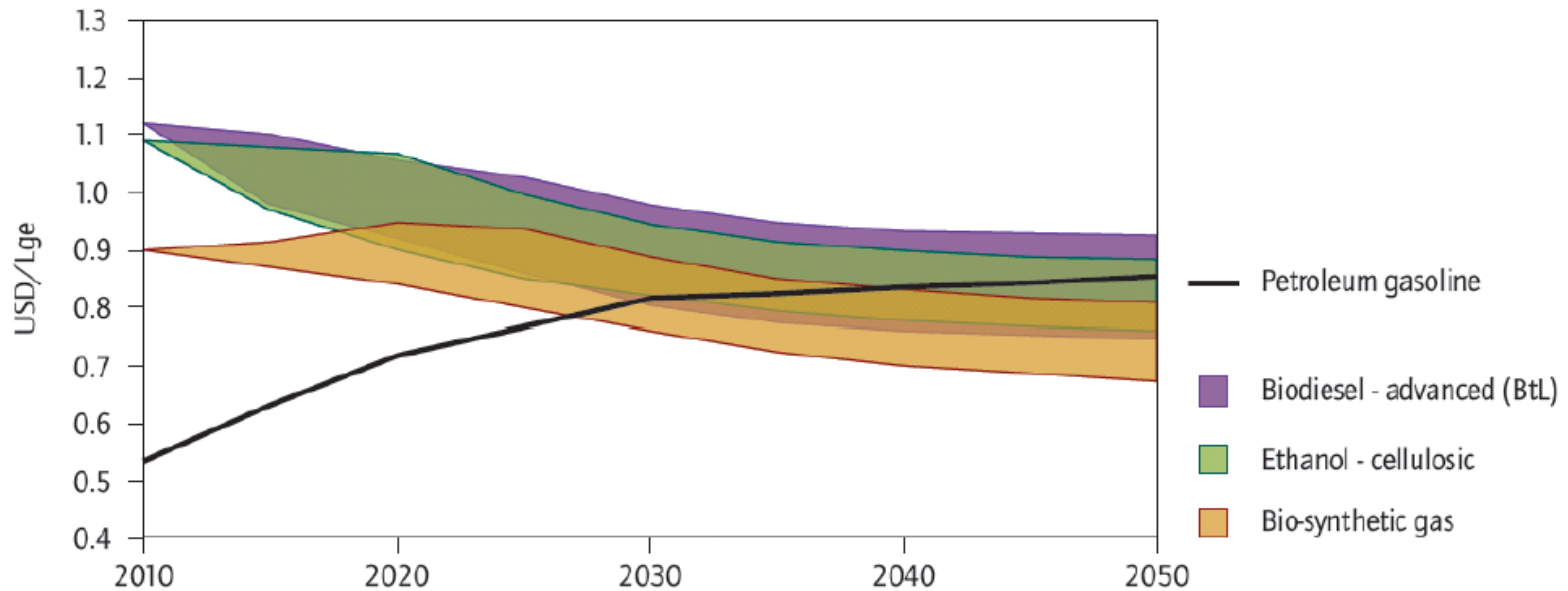
IEA Biofuel Roadmap: Vision



- Global biofuel supply grows from 2.5 EJ today to 32 EJ in 2050
 - Biofuels share in total transport fuel increases from 2% today, to 27% in 2050
 - Diesel/kerosene-type biofuels become particularly important to decarbonise heavy transport modes
- Large-scale deployment of advanced biofuels will be vital to meet the roadmap targets



Biofuel Production Costs 2010-50



Production costs shown as untaxed retail price

- Most conventional biofuels still have some potential for cost improvements
- Advanced biofuels reach cost parity around 2030 in an optimistic case

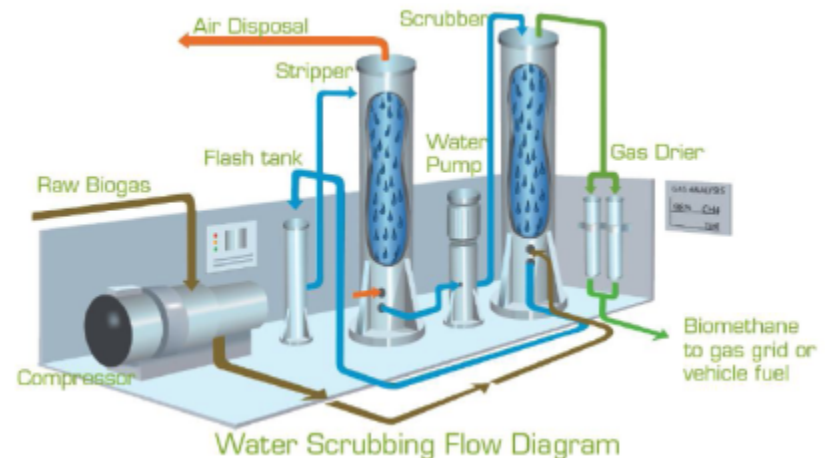
An opportunity for biogas

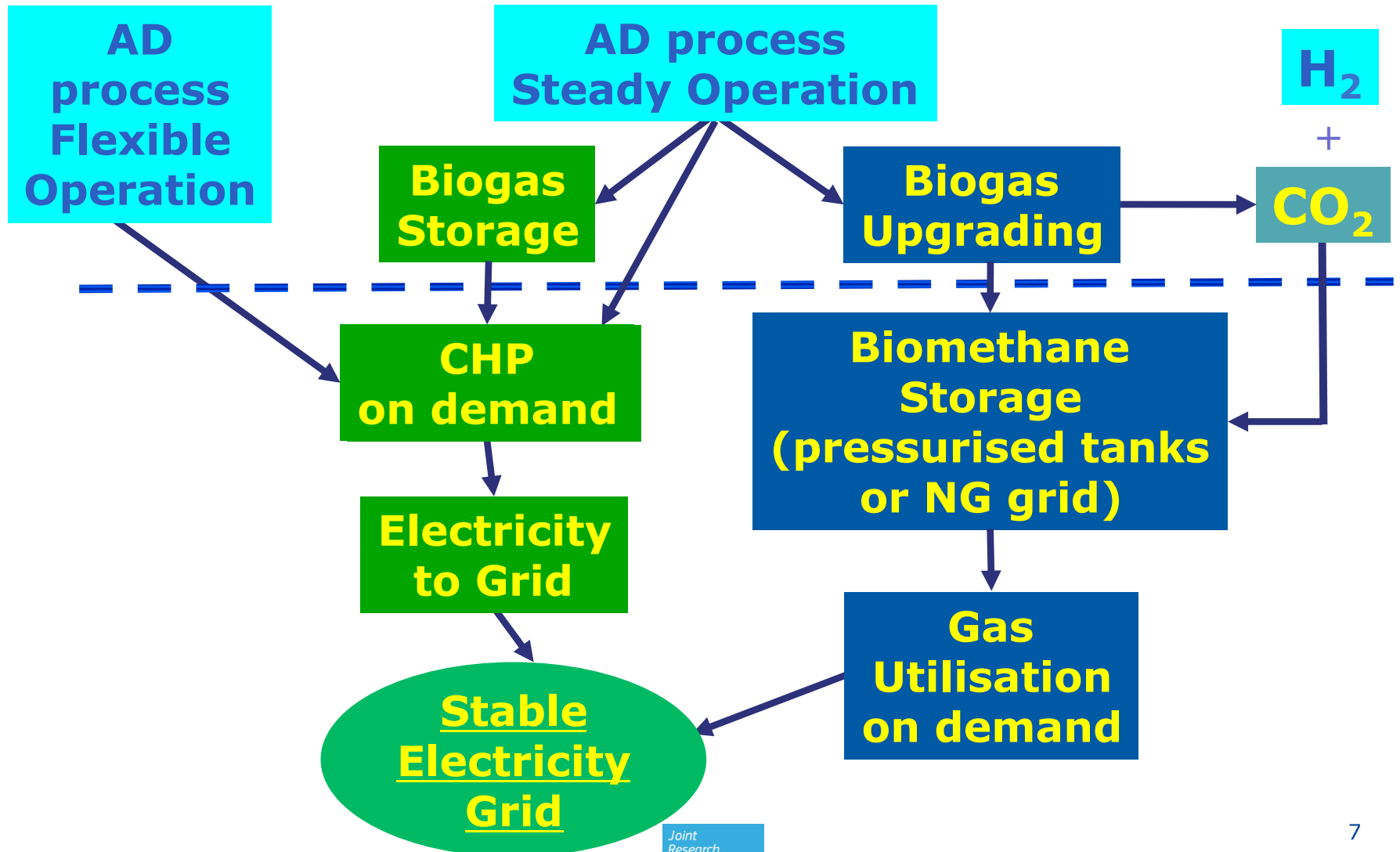
Can biogas plants be used to meet fluctuating power demand ?

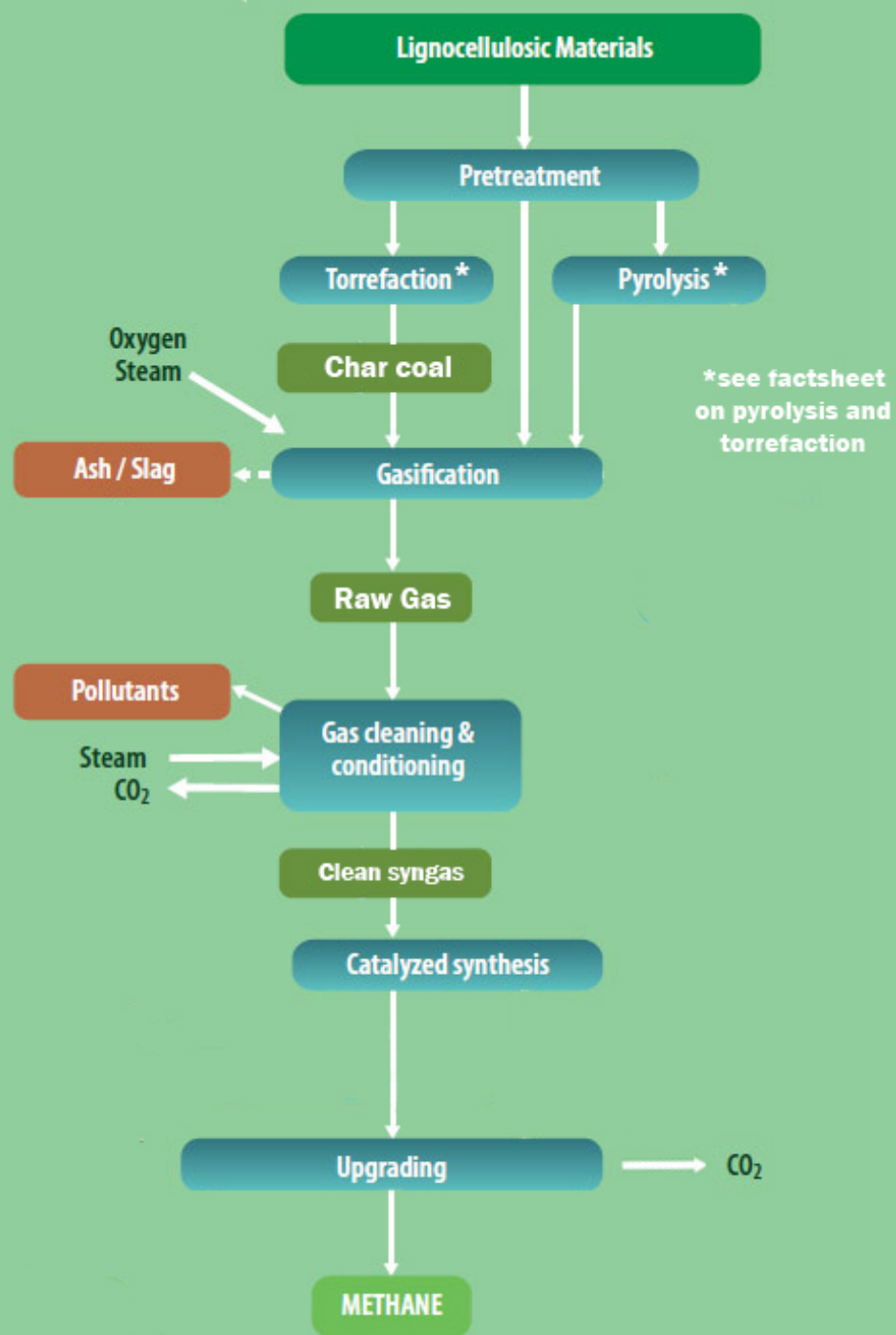
This is already being tried,
by increasing biogas storage capacity
by fluctuating rate of biogas production

Greater income from flexible power supply should increase economic viability of biogas plants.

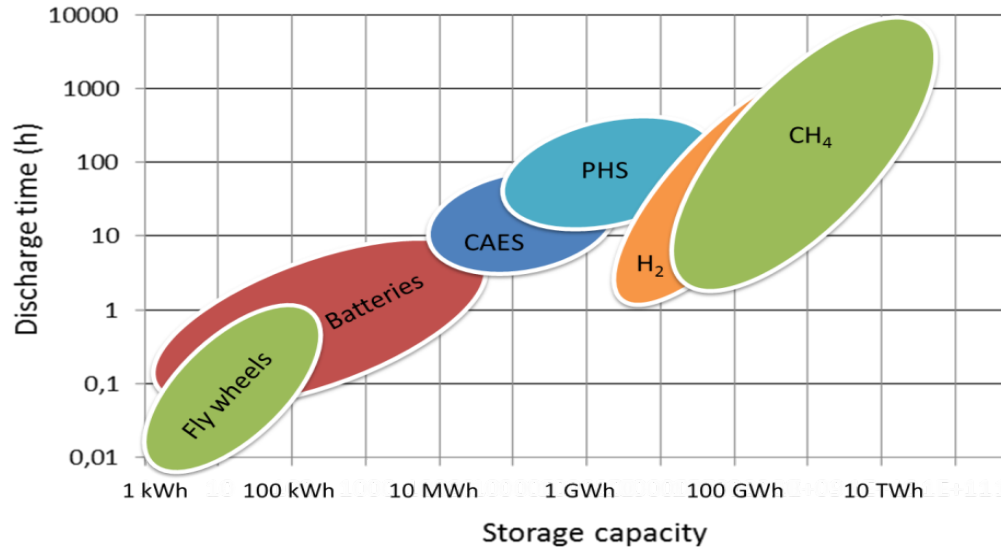
The challenge is how to design and operate biogas plants for flexible output







Storage capacities



CEN/TC 408

The European standards organisation, CEN is working on two specific standards for "Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network".

CAES: compressed air energy storage
PHS: pumped hydro storage