Waste biorefinery technologies for accelerating sustainable energy processes

cost EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

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Synergies of industrial plants with R&D projects for the case of biomass gasification

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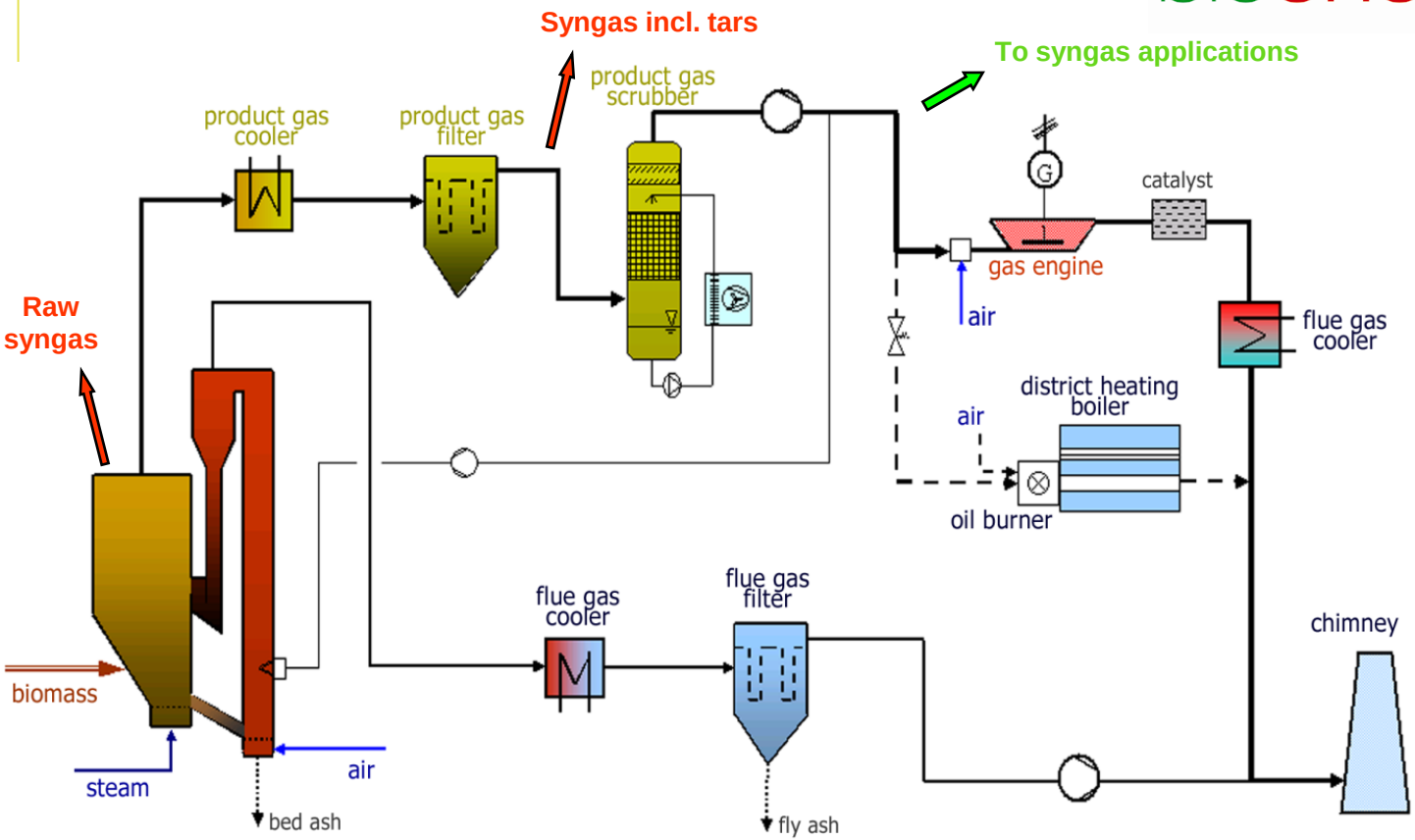
EnergyLab 2.0

Future energy system in pilot scale (PtL, PtG, …)

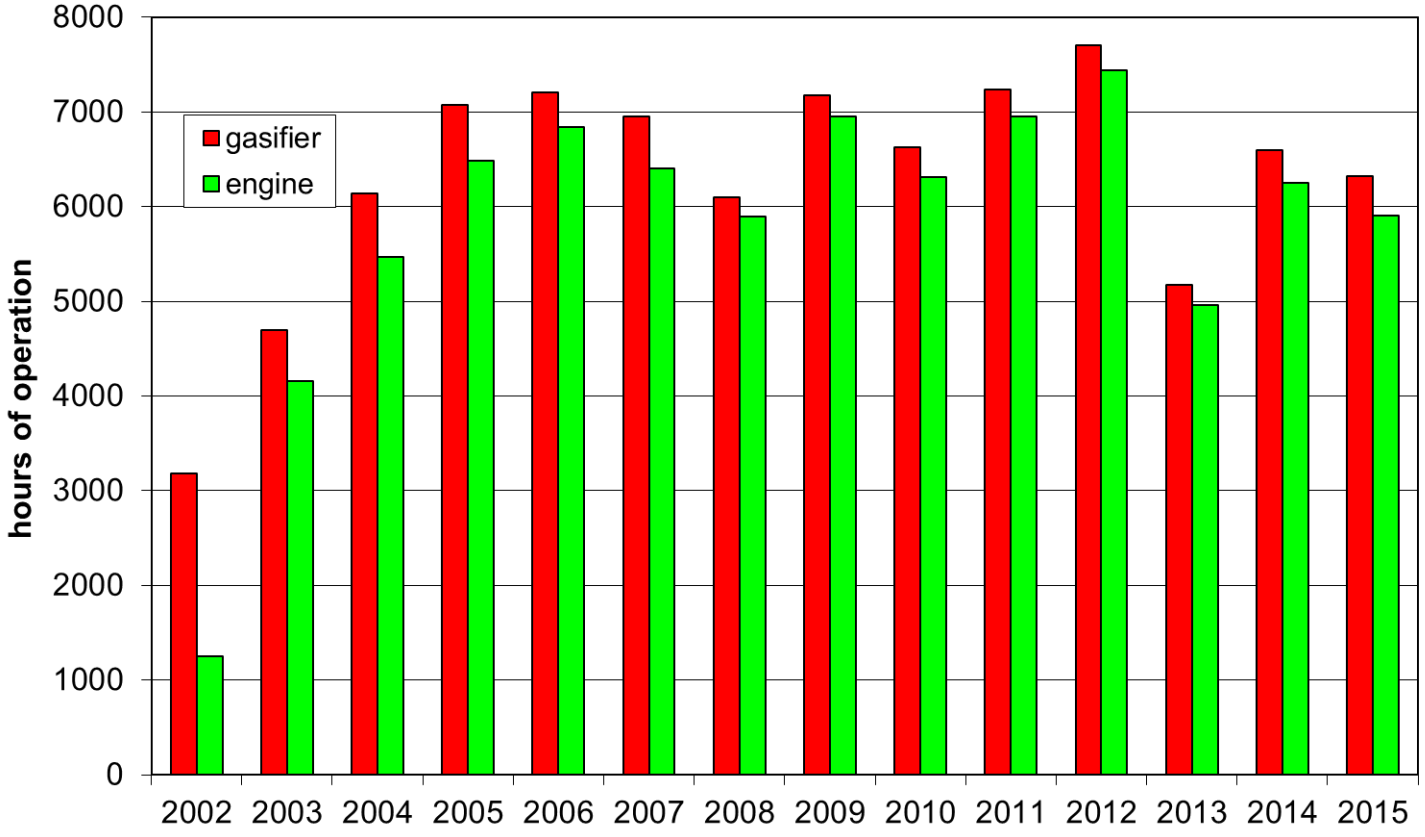
Biomass to Liquid (bioliq®)

Biomass pyrolysis and gasification, gas treatment, DME synthesis, DME to gasoline
5 MW gasifier, 2MW synthesis

CHP-PLANT GÜSSING



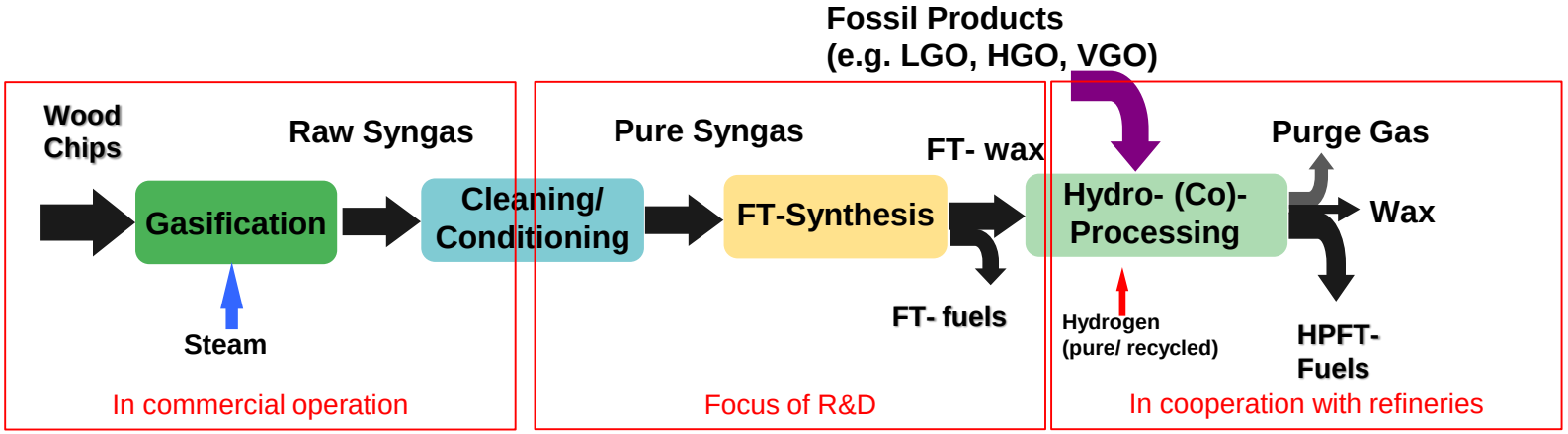
Availability



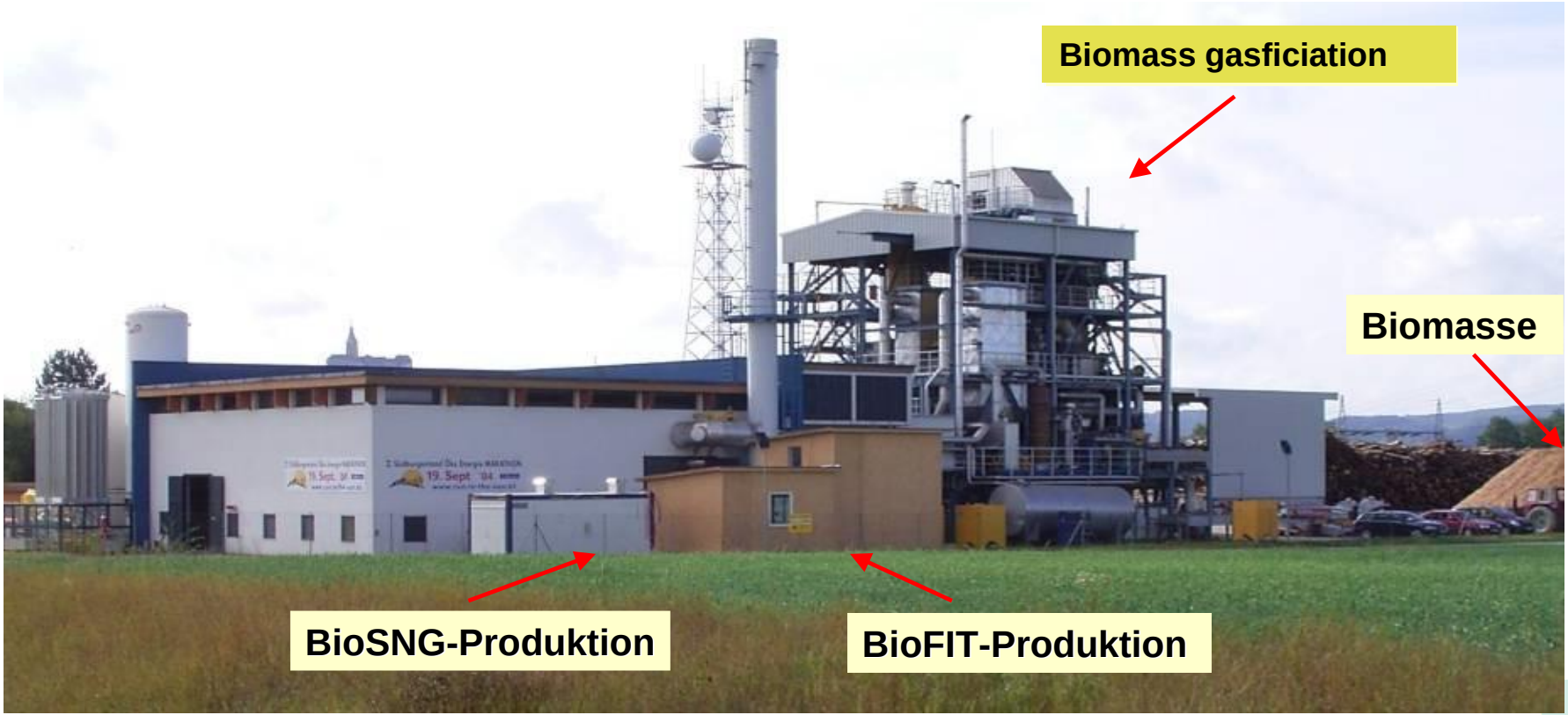
Synthetic Biofuels (FT- Route)

Cellulose
Hemicellulose
Lignin

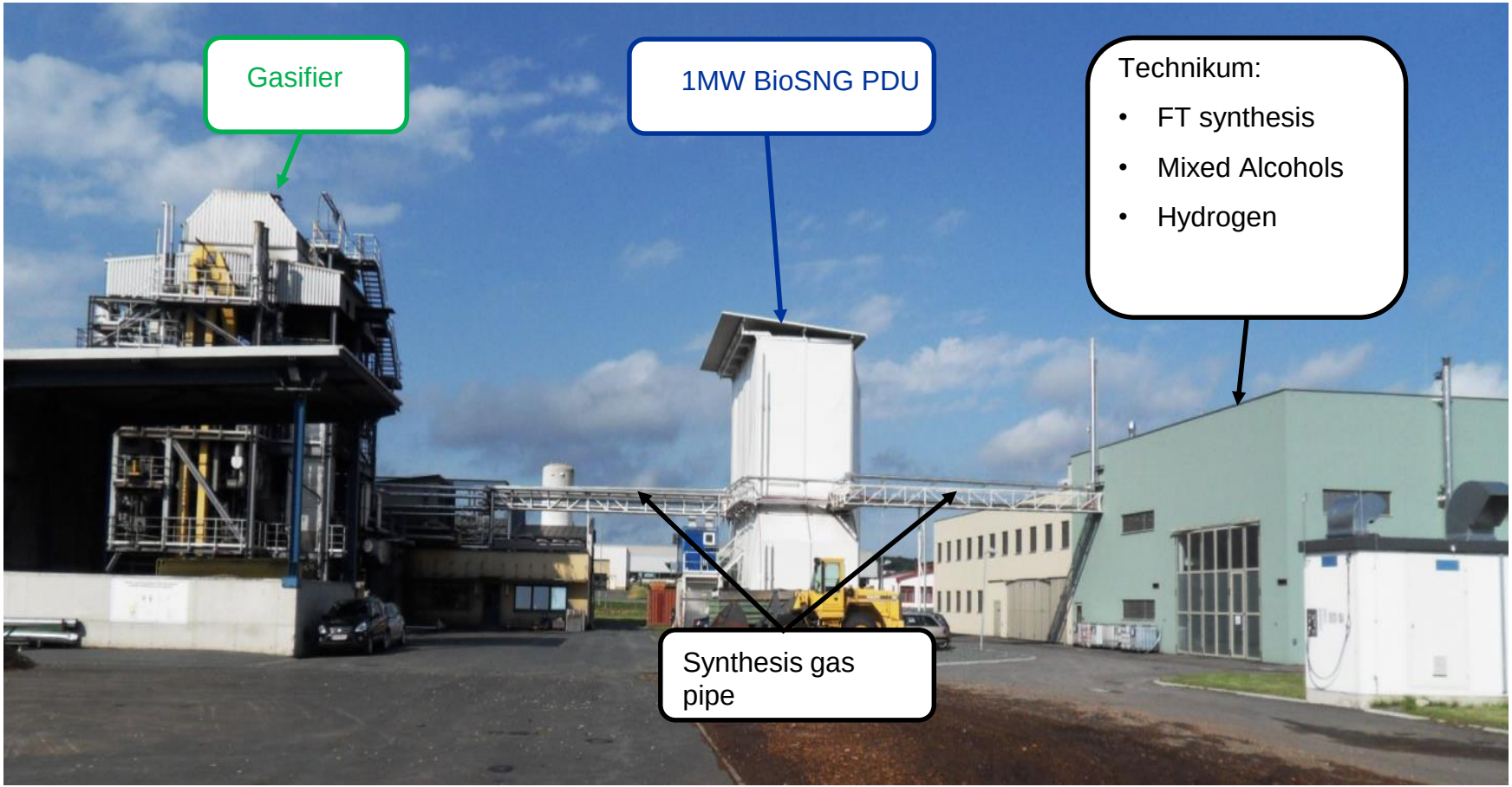
i/n- paraffins
(hydrocarbons)



R&D in Containers at CHP Güssing



Technikum at CHP Güssing



Conclusions

- On the way to industrial scale, piloting at TRL 5-6 is necessary
- To verify smooth operation of a catalytic system long term tests of more than 1000 hours are necessary
- Integration of R&D into industry has several advantages, like:
  - Good availability of syngas at very low costs
  - Demonstration of technology in industrial environment
- There are also risks, like:
  - If the industrial plant stops operation (e.g. end of feed-in-tariff), also all your R&D is stopped
  - Change of ownership, and therefore no longer support of R&D