



Chemical Looping Gasification
for Sustainable Production of
Biofuels

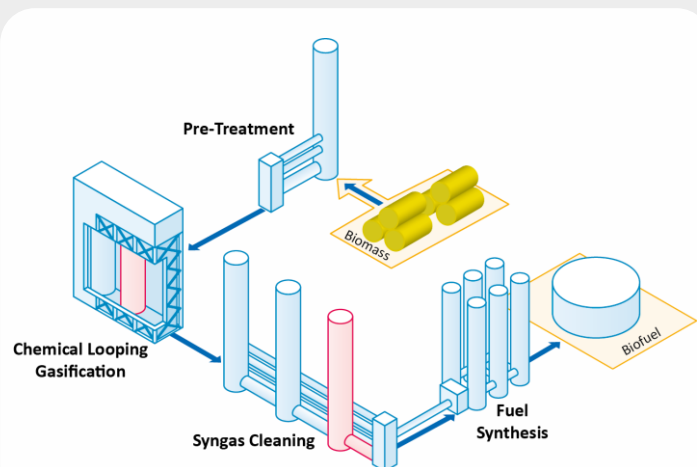
WHAT IS CLARA?

CLARA is a Horizon 2020 project, funded by the EU, involving 13 partners from across Europe which aims at developing an efficient technology for the production of second generation liquid biofuels based on chemical looping gasification (CLG) of biogenic residues.

H2020 Research and Innovation action
Grant Agreement no 817841

 <https://clara-h2020.eu/>

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WHY CLARA?

Despite the ongoing surge in e-mobility, the de-carbonization of road & ship transport and the aviation industry are major challenges for which suitable and economical solutions are to be found. By investigating avenues of utilizing biological non-food-grade precursors for biofuel production, CLARA contributes not only to a sustainable shifting from fossil to renewable resources, but also facilitates the large-scale economic production of biofuels, without detrimental effects on food availability and prices arising. This aspect, in combination with the projected advances in terms of process scalability, CO₂-reduction potential and biofuel costs, makes CLARA an auspicious candidate for future thermochemical conversion processes.

PROJECT HIGHLIGHTS

- Avoidance of an Air Separation Unit through deployment of chemical looping gasification technology
- Wide non-food grade feedstock spectrum due to establishing of an efficient pre-treatment concept
- Cost-competitive biofuels through a novel, cost efficient syngas treatment unit, reducing processing costs by 50 %
- Facilitation of net-negative CO₂ emissions through biofuel CCS/U
- Production of drop-in-fuels, avoiding significant alterations in the existing infrastructure

PROJECT OBJECTIVES

- Develop and test a concept for CLG of biogenic residues for the production of syngas at realistic conditions (1 MW_{th})
- Develop and test a novel syngas cleaning technology that meets the specifications for the biofuel synthesis catalyst
- Demonstrate the full process chain including pre-treatment of feedstock, CLG, syngas treatment, and fuel synthesis
- Scale up the entire process including gasifier, syngas treatment, and biofuel synthesis to industrial size
- Estimate the cost structures in comparison to conventional gasification technologies
- Determine the impact of the biomass-to-fuel chain on the environment and society

For more information on the project progress visit: <https://clara-h2020.eu/>. In case you want to receive regular updates on the project, you can [subscribe to the biannual newsletter](#).



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 817841.