

Developing a new catalytic process to turn biomass into propane fuel gas

Jude Onwudili, Aston University & Keith Simons, Calor Gas Limited

Summary

LPG is a clean burning lower-carbon fuel that promotes better air quality. There is an urgent need to develop bio-based low carbon pathways to hydrocarbons to replace the existing use of liquefied petroleum gases (LPG), as such LPG has a huge potential to help meet decarbonisation targets.

Aims

- Test the catalytic conversion of biomass-derived feedstocks to bio-based LPG component gases (propane and butane) under hydrothermal conditions

Outcomes

- High yields of propane from biomass-derived C4-based feedstocks produced
- High selectivity of the catalytic reaction towards propane achieved in batch reactor under moderate hydrothermal conditions (< 300°C)
- Potential to commercialise evidenced

“The project has been delivered at the level of confidence required by the industrial partner, who has provided additional funding to continue the research collaboration, while we seek opportunities for longer-term funding”

Jude Onwudili
Aston University

