

Workshop announcement

IEA Bioenergy: Task 33: 11 2019

Waste gasification: Commercial application and R&D activities

Tuesday 26 November 2019, Burlington Hotel, Birmingham, UK

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INTRODUCTION

Gasification is a technology that is widely applied for the production of heat and power. Many developments focus on utilizing low-quality feedstocks in order to improve business cases, as well as providing solutions for emerging problems. Waste (biogenic) is a major global challenge today, especially waste containing plastic. As incineration and land-filling becomes more and more unpopular, gasification is gaining momentum and the number of solution providers in this area is growing. Furthermore, waste gasification is more complex than using clean biomass, and therefore requires new R&D.

This workshop will give companies an opportunity to present their solutions and explain what makes the market work for them. There will also be a number of presentations on recent and required efforts in R&D.

SPEAKERS

Patricia Thornley – Supergen Bioenergy Hub (UK)
Hilary Stone – Renewable Energy Agency (UK)
Juhani Isakson – Valmet (F)
Bram van der Drift – Synova Renewable Technology (NL)
Roberto Andreatta – International Polyfuel Machines (I)
Domenico Cirillo – CMD (I)
Paul Winstanley – ETI (UK)
Mark Johnson (TBC) – KEW (UK)
Liran Dor – Boson (Lux)
Carlos Mourao Vilela – TNO (NL)
Jelena Maric – Chalmers (S)
Fanxing Li – NCSU (US)
Massimiliano Materazzi – UCL (UK)
Christoph Pfeiffer – BOKU (A)

GOAL

The goal is to share knowledge and ideas on waste gasification and bring companies and R&D institutes together to form new collaborations.

AGENDA

9:00 – 9:40 Welcome / introduction to Waste Gasification in the UK

Berend Vreugdenhil (Task 33 chair / TNO)

Patricia Thornley (Supergen) *This presentation will introduce the UK resource (including waste arisings) availability and projections, the UK perspective on the role of biomass and waste in a low carbon economy and the rationale for biomass and waste gasification from a UK perspective. This will incorporate previous Supergen Bioenergy Hub resource modelling work and the UK committee on Climate Change's recommendations with respect to bioenergy and gasification.*

Hilary Stone (Chair of the pyrolysis and gasification workgroup of the REA)

9:40 – 13:00 Companies active in the field of waste gasification

Juhani Isakson (Valmet)

Bram van der Drift (Synova Power) *Synova is a company supplying gasification systems for waste and mixed plastics. The presentation will show how it works and why the resulting gas is a valuable product that can be used to make electricity, RNG, liquids as well as generate plastics circularity.*

Domenico Cirillo (CMD)

Roberto Andreatta (IPM)

Liran Dor (Boson)

Paul Winstanley (ETI) and Mark Johnson (KEW)

13:00 – 14:00 Lunch

14:00 – 16:50 R&D development related to Waste Gasification

Jelena Maric (Chalmers) *Experiences with gasification of plastic based waste fractions; results from tests performed at Chalmers in the 2-4MWth DFB gasifier.*

Carlos Mourao Vilela (TNO)

Fanxing Li (NCSU) *Preliminary results and potentials of an intensified, sorbent enhanced – chemical looping gasification (SE-CLG) approach that combines biomass gasification, air separation, and syngas conditioning and cleaning into a single circulating fluidized bed (CFB) gasifier to produce methanation ready syngas with an ideal H₂/CO ratio.*

Massimiliano Materazzi (UCL)

Christoph Pfeiffer (BOKU)

16:50 17:00 Wrap up