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- Opportunities for Growth Regional Analysis & Key Developments
- Status of Demonstration Projects Latest Project Updates
- Key Products Derived from Gasification
   Process
- Gasification-Based Cogeneration

- Gasification Based Bio-chemicals & Bio-products
- Research & Development in the Labs & Research Institutes
- Gasification for Heat & Power
- Waste Gasification: Status Updates & Recent Developments
- Coal Gasification: 'Cleaning the Coal' Industry

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## Gasification 2019

Brussels, Belgium

13<sup>#</sup> - 14<sup>#</sup> **March** 2019

Gasification offers advantages over competing technologies in the processing of a variety of feedstocks into a diverse range of desirable products with more value and potential applications than the raw material itself. This product flexibility as well as the versatility and efficiency of gasification, make it an attractive technology now and for the future.

Many countries and enterprises are focusing extensive programs on performing the research, development, and demonstration necessary to maximize the potential for gasification in the future.

ACI's 8th Gasification conference will showcase the latest developments in the sector and provide key insights from senior executives in the industry to discuss the latest commercial and technical developments, challenges and research breakthroughs throughout the entire gasification market.

## Who Should Attend:

Leading power generation companies, oil refining and petrochemical industry including: managers, directors & engineers of gasification, biomass or clean coal technology, power generation, processing technologies, R&D and new technologies, renewable strategy, sustainable technologies, environment and CO2 managers, CTOs, COOs as well as business development executives from technical service providers, consultants and regulators.

## **Speaking Opportunities:**

If you would like to be considered as a speaker for the event with a 30-45 minute presentation, please submit an abstract to Daniel Laverty:

Tel: +44 (0)203 141 0612 or Email: Dlaverty@acieu.net

## Registration is Simple:

If you would like to register for this event or wish to find out more information, you can contact

Mohammad Ahsan:

Tel: +44 (0)203 141 0606 or Email: Mahsan@acieu.net

## **Sponsorship Opportunities:**

A wide variety of commercial and sponsorship opportunities available - for more information please contact:

Tim Rowley-Evans:

Tel: +44 (0)203 141 0614 or Email: Trowleyevans@acieu.net

## Site Visit Details: The BioTfueL project



The BioTfueL project launched by Axens, Avril, CEA, IFPEN, Total and ThyssenKrupp Industrial Solutions is designed to convert lignocellulosic biomass (crop and forest residues, dedicated energy crops) into biofuels via torrefaction, gasification and Fischer Tropsch. The consortium' goal is to develop an end-to-end set of processes for producing high quality drop-in fuels.

The BioTfueL project is focused on developing an innovative and integrated process for converting biomass into naphtha, jet fuel and diesel. Torrefaction and gasification make it possible (...) and energy crops. The process can also convert fossil feedstock mixed with biomass (economy of scale, season variations in resource availability).

The resulting drop-in fuels have premium quality in term of technical and environmental performances (renewables, 0 sulfur, 0 olefins, 0 aromatics).

The set of processes developed by BioTfuel will transposable on an industrial scale at the end of the project.

There is no extra charge to join the site visit, although places are limited and allocated on a first come first served basis.

Please confirm your attendance when booking for the conference to avoid disappointment.

### Schedule of Site Visit:

11:00 – Registration for site visit at conference hotel
12:00 – Depart conference hotel
14:15 – Welcome address & presentation at the BioTfueL facility
15:00 - Guided tour of the BioTfueL facility
16:00 – Closing remarks & refreshments



## DAY 1

Wednesday 13th March 2019

## 08:00 **REGISTRATION & COFFEE**

## 09:00 CHAIRMAN'S OPENING REMARKS



Paul Winstanley
Project Manager – CCS & Bioenergy
Energy Technologies Institute ETI

## **SESSION ONE**

Drivers for the Gasification Industry - EU Regulations, Directives & Energy Demand: Future Forecast for Gasification Technology

O9:10 — EU Regulations, Directives & Energy Demand

- Introduction into the European Biogas Association
- Production routes & advantages of Renewable Gas
- Overview of biomethane in Europe
- European biomethane market with ErGar
- Biomethane subsidy schemes
- Targets and perspectives of biomethane in EU countries



Harm Grobrügge Acting President European Biogass Association - EBA

## 09:35 The Role for Gasification to Produce Biomethane in a Net Zero Emissions EU

- Navigant new study Gas for Climate consortium analyses the role of gasification to produce biomethane
- Significant cost reductions are possible
- Renewable gas can achieve significant energy system cost savings compared to an energy system with a minimal role for gas



Daan Peters Associate Director **Navigant** 

10:00 Panel Q&A

### **SESSION TWO**

Opportunities for Growth - Regional Analysis & Key Developments

10:15 Status of the Gasification Industry - World View 2019

- Overview of the GSTC Global Syngas Database
  - Analysis of total syngas market
  - Breakdown of technology type, feedstock, end use aplications and growth by region



Chris Higman
Higman Consulting GmbH

## 10:40 Gasification Developments in the Netherlands

- Fluid bed gasification
- Super critical gasification
- Waste gasification
- Gasification for fuels and chemicals



Berend J. Vreugdenhil Innovation Manager -Gasification ECN part of TNO

11:05 Panel Q&A

## 11:30 MORNING REFRESHMENTS

### **SESSION THREE**

Status of Demonstration Projects – Latest Project Updates

## 12:00 GAYA project: A Demonstration Plant Supporting BioSNG Industrialization

- General overview of the project goals
- · Achievements so far
- Next steps



Marion Maheut Process Engineer **Engie** 

## 12:25 BioTfueL Project: Developing Second Generation Biofuels

- 6 partners to develop, demonstrate & commercialize a fully optimized & integrated B-XtL chain
- 2 demo plants including torrefaction, gasification, syngas conditioning & FT synthesis
- From R&D/demo plant to industrial scale, what are our next steps?



Michael Hecquet R&D Program coordinator TOTAL RC on behalf of Bionext



Guillaume Cheviron R&D Manager Axens on behalf of Bionext

# Delivery & Establishment of a First UK 12:50 Commercial Scale Plant to Deliver Ultra Clean Syngas

- Detailing the process through which ETI & Kew Technology have been through to get to this critical project start up stage
- Lessons learned in delivering the project, from both a funders point of view (ETI) and the Project Team's point of view
- Outline of establishment, with a focus on operability
- Look forward to deployment at scale across the UK and elsewhere



Paul Winstanley
Project Manager – CCS & Bioenergy
Energy Technologies Institute ETI

13:15 Presentation title to be confirmed



Martijn Theelen Business Developer Renewable Gas **Gasunie New Energy** 

13:40 Panel Q&A

14:00 **LUNCH** 

### 15:00 ROUND TABLE DISSCUSSION

## Key Products Derived from Gasification Process

Discussion will focus on where gasification is going, towards E-production, Chemicals production or a mix, what is desired, what is economically viable, market opportunities and business models in place - Each table will focus on one of the following points:

Bio-Chemicals via gasification



Robert Schouwenaar Team Lead E&D Gasification & Hydrogen Manufacturing Shell

Successful routes to funding



Paul Winstanley
Project Manager – CCS & Bioenergy
Energy Technologies Institute -

 Implications on assessment and testing of fuels for dRTFCs



Dr Jeremy Tomkinson Chief Executive National Non-Food Crops Centre, NNFCC

## 16:15 AFTERNOON REFRESHMENTS

### **SESSION FOUR**

Gasification Based Bio-Chemicals & Bio-Products

Thermal Gasification Based Hybrid Systems
- PtG & PtL

- Biomass gasification as a carbon source for PtG
  - Efficiency
  - Economics of PtG systems
  - PtG Projects
- Advantages of PtL to PtG systems
  - PtL Projects
- Barriers of commercialization of gasification based PtG and PtL systems



Jitka Hrbek Senior Scientist Vienna University of Technology, IEA Bioenergy Task 33

#### 11:55 **CONFERENCE PRESENTATION**

### **NOTAR®** Gasifier: Biomass to Clean Gas

- Company Profile
- Movie teaser
- History
- Competitive advantages
- NOTAR® TECHNOLOGY
- Cutting-edge technology (producing clean synaas)
- Ecosystem
- Feedstocks
- MONT-GODINNE SITE
  - Process flow
  - High-end performances of the project
  - Facts and figures
- CONCLUSION
  - XYLOWATT's proposal



Jürgen Bohn CEŌ Xylowatt SA

#### LUNCH 12:25

## **SESSION SIX**

Waste Gasification: Status Updates & **Recent Developments** 

## 13:25

## **Bio & Waste Gasification: Technology**

- Shell's world-wide gasification activities
- The role of biomass and waste gasification in Shell's scenarios
- Cost reduction through simplification
- Gasification Technology maturation



Robert Schouwenaar Team Lead E&D Gasification & Hydrogen Manufacturing Shell

## Gasification of Sewage sludge for In-Situ 13:55 Recovery of Phosphorus - Lab Scale Results & Pilot Scale Perspective Legal obligations for P-recovery from sewage

- sludge in Germany
- Thermal P-recovery during gasification
- Experimental results
- Gasification pilot plant at RWE's Niederaußem



Tobias Ginsberg R&D Engineer **RWE Power AG** 

Panel Q&A 14:25

#### 14:45 **CONFERENCE PRESENTATION**

Recent European Research Activities in UCG Technology - The Best Use of Resource Approach in MEGAPlus Project

- Overview of RFCS funded MEGAPlus project and project main assumptions
- Problem statement coupled coal bed methane (CBM) & underground coal gasification (UCG) processes
- Commencement of geological & hydrogeological research & assessment of the coal fields in Silesia, Poland, German Ruhr district & UK
- · Large-scale experimental verification of the production of natural substitute gas (SNG) through combined CBM-UCG technologies



Krzysztof Kapusta Head of Laboratory for Experimental Installations Clean Coal Technology Centre

#### 15:15 **CHAIRMAN'S CLOSING REMARKS**



Paul Winstanley Project Manager - CCS & Bioenergy **Energy Technologies Institute -**

**END OF CONFERENCE - DEPARTURE TO** 15:25 XYLOWATT SITE TOUR



## INVITATION TO VISIT XYLOWATT

Mont-Godinne

March 14<sup>th</sup> 2019



## **DISCOVER THE NOTAR®**

XYLOWATT's NOTAR® gasifier is the sole industrial reactor that produces clean syngas without any tar residue. Our **Biomass to Energy** plants produce **renewable energy** from natural and recycled woodchips. Combined with a trigeneration engine, our NOTAR® sites can supply you with electricity, heat and cold 24/7.

If renewable energy and biomass gasification are of any interest to you, come have a tour of the FIRST BELGIAN BIOMASS GASIFICATION TRIGENERATION UNIT, and discover our turnkey project implemented in Mont-Godinne.

## Visit timetable:

16:05 - depart from conference site

17:15 – arrival onsite

18:30 - end of visit

19:30 - back at conference site

## Visit of the plant will go as follow:

- Brief presentation of the project
- Guided tour of the infrastructure
- Extended explanation of the process
- Questions and answers

**DID YOU KNOW?** Our gasification units follow a **circular economy** model, they are sustained with local biomass, and the process is **zero waste** – all by-products are valorised onsite to produce additional heat. Our cutting-edge technology, allows to drastically **reduce CO<sub>2</sub> emissions** and contributes to meet the COP21 objectives.

## Gasification 2019

Brussels, Belgium



## Registration Is Simple

If you would like to register for this event or wish to find out more information, you can contact Mohammad Ahsan using any of the following methods:



+44 (0)203 141 0606



mahsan@acieu.net



Postal Address:



ACI Europe, 10 Gough Square, London, EC4A 3DE

## Registration Is Simple

Conference (Includes Access to Documentation Pack) 13th & 14th March 2019

£1,695.00

Documentation Pack Only

£470.00

Please Note.

Members and customers of all supporting organisations are entitled to a discount off their conference package.

For more information please call +44 (0) 203 141 0606

## Documentation Packet Available

We are selling the Gasification 2019 papers at just \$440 (+\$30 P&P). Simply tick the box on the booking form, send it with payment and your copy will be on its way to you after the meeting.

This important manual will be a source of invaluable reference for the future.

## Terms & Conditions

### **Payment**

Payment must be received within five business days of returning the signed contract. After receiving payment a VAT receipt will be issued. If you do not receive a letter outlining details two weeks prior to the event, please contact the Conference Coordinator at ACI Europe Ltd.

Discounts are available for multiple/group bookings. Please call +44 (0)203 141 0606 for more information.

Substitutions are welcome up to 24 hours prior to the event. Cancellations must be received in writing no less than 3 weeks prior to the start of the conference; a full credit voucher towards a future ACI conference will be issued. Any cancellation received less than 3 weeks prior to the start of the event shall be deemed to be a breach of this contract by client, and accordingly, no credits will be given. Cancellations must be received in writing by mail or fax three weeks before the conference. Thereafter the full conference fee is payable. If for any reason ACI Europe Ltd decides to amend, cancel or postpone this conference, the conference fee will not be refunded. Furthermore, ACI Europe Ltd will not be responsible for covering airfare, hotel or other costs incurred by registrants. In the event that AČI Europe Ltd cancel or postpone the event, ACI Europe Ltd reserves the right to transfer this booking to another conference to be held in the following twelve months, or to provide a credit of an equivalent amount to another conference within the following twelve months. The construction, validity and performance of this agreement shall be governed in all respects by the laws of England to the exclusive jurisdiction of whose courts the Parties hereby agree to submit.

### Accommodation

The cost of accommodation is not included in the event fee. Preferential rates will be arranged with or near the event venue, and all confirmed delegates will be given details of how to book accommodation at this rate in due course.

## About ACI

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