

Biogas Hands On Engineering and Operating Training

The Dolphin Hotel, London Rd, St Ives, Cambs, PE27 5EP, UK
February 5th – 8th, 2018

Monday, February 5 th	
Practical Digester Biology – Optimisation of Biogas Production	
08:30 – 09:00	Registration
09:00 – 09:30	<p>Welcome to the seminar</p> <p>Introductory round between lecturers and attendees</p> <p>Overview over the Biogas industry in Europe and UK and its future development <i>Dr. Kiara ZENNARO, REA, UK</i> <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i></p>
10:30 – 11:00	Coffee break
11:00 – 12:30	<p>Preferable loss mitigation controls for on-site insurance</p> <ul style="list-style-type: none"> • Loss mitigation controls underwriters expect to see when offering insurance terms • Importance of adhering to policy & terms and conditions • Extensions to core covers that should be considered <p><i>Carl GURNEY, JELF</i></p>
12:30 – 13:30	Lunch break
13:30 – 15:00	<p>Choosing the right substrate and combining it for the optimal digestion input</p> <ul style="list-style-type: none"> • Substrate selection criteria • Calculation of the gas yield according to energy content • Substrate quality and level of contamination • Off-farm material from communal and industrial origin <p>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</p>
15:00 – 15:30	Coffee break
15:30 – 17:00	<p>Process parameters</p> <ul style="list-style-type: none"> • Inhibitors in anaerobic processes • Additives (Trace elements, enzymes, sulphur binder, buffer) • Process control and desulphurisation methods of the raw biogas <p><i>Adrian ROCHEFORT, FM Bioenergy, Leicester, UK</i></p>
17:00 – 17:15	Discussion, end of the day

19:00 optional: Meet and greet dinner at a local restaurant

Tuesday, February 6th

Practical Digester Biology – Optimisation of Biogas Production

9:00 – 10:30	<p>Meet the challenge: How to digest fibrous and N-rich feedstocks</p> <ul style="list-style-type: none"> • Characteristics of the substrates • Causes of an NH₃-inhibition (feedstocks, NH₃-formation, pH, temperature) • Counter measures • Case studies and practical examples <p><i>Dr. Melanie HECHT, Schaumann BioEnergy GmbH, Pinneberg, Germany</i> <i>Adrian ROCHEFORT, FM Bioenergy, Leicester, UK</i></p>
10:30 – 10:45	Coffee break
10:45 – 12:15	<p>In-situ process control and trouble shooting – Process monitoring and practical plant operation</p> <ul style="list-style-type: none"> • Initial phase: Seeding, heating and start of the feeding • Testing parameters during operation • Practical devices for plant monitoring and record keeping <p><i>Dr. Melanie HECHT, Schaumann BioEnergy GmbH, Pinneberg, Germany</i></p>
12:15 – 13:15	Lunch
13:15 – 17:00	<p>1/2-day field trip to the biogas plant ‘Material Change’s Decoy Farm’, Peterborough</p> <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i></p>
~ 18:00	Arrival back at the dolphin, end of the day

Wednesday, February 7th

Practical Digester Biology – Biogas Plant Safety

09:00 – 10:30	<p>Practical experiences & lessons from operating a biowaste and food waste plant</p> <ul style="list-style-type: none"> • Biology and technologies with food waste and industrial/communal biowaste • Getting rid of contraries • Sinking and swimming layers • Dealing with small unwanted particles <p><i>Tobias FINSTERWALDER, Finsterwalder Umwelttechnik GmbH, Bernau, Germany</i></p>
10:30 – 11:00	Coffee break
11:00 – 12:30	<p>Introduction to monitoring, commissioning & maintenance</p> <ul style="list-style-type: none"> • Daily monitoring • Minor repairs – safety during repairs • Digester emptying, repair and general maintenance <p><i>Jamie GASCOIGNE, Marches Biogas Ltd., Ludlow, UK</i></p>
12:30 – 13:30	Lunch
13:30 – 15:00	<p>Process requirements for the mono-digestion of chicken manure</p> <ul style="list-style-type: none"> • Quality and consistency of substrate and specific selection of basic parameters • Possibilities of equipment and self testing for the operator • Influence of substrate pretreatment for the improvement of biogas yield • Practical equipment selection <p><i>Alfons HIMMELSTOSS, AEV Energy, Dresden, Germany</i></p>

15:00 – 15:30	Coffee break
15:30 – 17:00	<p>Biomethane potential: Tests and substrate quality monitoring</p> <ul style="list-style-type: none"> • How to evaluate feedstock • BMP tests for feedstock and digestate <p><i>Edgar BLANCO, Anaero Technology, Cambridge, UK</i></p>
17:00 – 17:30	Discussion, end of the day

Thursday, February 8th	
Optimisation in Gas and Digestate Utilisation	
09:00 – 10:30	<p>Biomethane injection – connecting to the gas grid connection</p> <ul style="list-style-type: none"> • Description of gas network in the UK and how it works • Basics of upgrading technologies • A – Z of how to secure a gas grid connection • Gas quality – complying with GSMRs • Sustainability issues <p><i>Robert McKEON, CNG Services Ltd., Solihull, UK</i></p>
10:30 – 11:00	Coffee break
11:00 – 12:30	<p>Biogas upgrading and different pathways of biogas utilisation</p> <ul style="list-style-type: none"> • Comparison of upgrading technology • Biomethane injection • Green gas certificates <p><i>Robert McKEON, CNG Services Ltd., Solihull, UK</i></p>
12:30 – 13:30	Lunch
13:30 – 14:30	<p>Biofertiliser certification scheme</p> <ul style="list-style-type: none"> • Introduction to the scheme • PAS110 and the ADQP • Latest scheme developments <p><i>Georgia PHETMANH, Renewable Energy Assurance Ltd., UK</i></p>
14:30 – 15:00	Coffee break
15:00 – 16:30	<p>Digestate standard and Managing Digestate to Land for Agricultural Benefit</p> <ul style="list-style-type: none"> • Digestate handling in the UK • Preparation of Digestate / delivering to third party <p><i>Bryan LEWENS – Fertiliser Manager, Holsworthy Biogas Plant, Devon, UK</i></p>
16:30 – 16:45	Discussion, end of the seminar