

International and Irish Intensive Biogas Training – Practical Plant planning, Digester Biology, Biogas and Digestate Upgrading

November 19th-22nd, 2019

Address of the venue: South West College, Skills Centre, Killyhevlin Industrial Estate, Enniskillen, Co. Fermanagh, N.Ireland, BT74 4EJ

Tuesday, November 19th		Practical Plant Planning
8.30 – 9.00	Registration	
9.00 – 9.30	Welcome to the seminar <i>Shane McBRIEN, South West College, Enniskillen, Northern Ireland</i> <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i> Lecturers and attendees introduce themselves	
	The way forward in Ireland and prospects of biomethane <i>Noel GAVIGAN, IRBEA – Irish Bioenergy Association</i>	
9.30 – 10.30	Overview of the Biogas technology and its future development <ul style="list-style-type: none"> • Introduction to biogas technology and process design • Planning and environmental considerations associated with biogas projects • Operational requirements <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i>	
10.30 – 11.00	Coffee break	
11.00 – 12.30	Choosing the right substrate and combining it for the optimal digestion input <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 <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i>	
12.30 – 13.30	Lunch	
13.30 – 15.00	Introduction into design, planning and process engineering <ul style="list-style-type: none"> • Digester types • Pumping and mixing • Choosing the right equipment for your project <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i>	
15.00 – 15.30	Coffee break	
15.30 – 17.00	Calculation exercises for feasibility and process control <ul style="list-style-type: none"> • Calculating retention time, organic loading rate and digester size • Determining electricity and heat production • Exploring efficiency factors of gas utilization • Discussion of the results <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg/Jagst, Germany</i>	
17.00 – 17.15	Discussion, end of the first seminar day	

Meet & Greet – 19:00

Wednesday, November 20th		Practical Digester Biology	
9.00 – 10.30	Process control and process optimisation <ul style="list-style-type: none"> • Inhibitors in anaerobic processes • Additives (Trace elements, enzymes, sulphur binder, buffer) • Process control measures <i>Adrian ROCHEFORT, FM Bioenergy, Leicester, UK</i>		
10.30 – 10.45	Coffee break		
11.00 – 12.30	Meet the challenge: How to digest fibrous and N-rich feedstocks <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 <i>Dr. Melanie HECHT, Schaumann BioEnergy GmbH, Pinneberg, Germany</i> <i>Adrian ROCHEFORT, FM Bioenergy, Leicester, UK</i>		
12.30 – 13.30	Lunch		
13.30 – 14.45	How to optimize plant performance – using feedstocks from Ireland <ul style="list-style-type: none"> • Introducing 100% Irish grass into your digester • What causes foam and how to avoid it • Impact of substrate cut length on digester biology and equipment • Pretreatment and prestorage technologies for grass <i>Dr. Melanie HECHT, Schaumann BioEnergy GmbH, Pinneberg, Germany</i> <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg, Germany</i>		
14.45 – 15.00	Coffee break		
15.00 – 17.00	Interactive group and laboratory session - Necessary laboratory tests and practical interpretation of operating modes <ul style="list-style-type: none"> • Using examples from practise • Testing parameters during operation • Practical devices for plant monitoring • Record keeping <i>Dr. Melanie HECHT, Schaumann BioEnergy GmbH, Pinneberg, Germany</i> <i>Adrian ROCHEFORT, FM Bioenergy, Leicester, UK</i> <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg, Germany</i> <i>Katie O'DONOVAN, South West College, Enniskillen, NIR</i>		
17.00 – 17.15	Discussion, end of the day		

Thursday, November 21 st Biogas upgrading, biomethane injection	
09.00 – 10.30	<p>The potential of biomethane as a renewable fuel for heat, electricity and transport</p> <ul style="list-style-type: none"> • Overview and future developments of the Irish biomethane market • Overview of Gas Network Ireland (GNI) – Central Grid Injection facilities (CGI) <p><i>Ian KILGALLON, Gas Networks Ireland</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>Naveed RAZA, CNG Services Ltd., Solihull, UK</i></p>
12.30 – 14.00	Lunch
14.00 – 15.00	<p>Green Generation – Gas to Grid</p> <ul style="list-style-type: none"> • Overview of project and technology incorporated • Physical and regulatory challenges associated with development • Opportunities for future development <p><i>Michael McENIRY</i></p>
15.00 – 15.30	Coffee break
15.30 – 17.00	<p>Biomethane as a transport fuel</p> <ul style="list-style-type: none"> • Overview of the status quo • Possibilities and challenges <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg, Germany</i></p>
~ 17.30	Discussion, end of the day

Friday, November 22nd		Digestate Upgrading and Marketing	
09.00 – 10.30	<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, Devon, UK</i></p>		
10.30 – 11.00	Coffee break		
11.00 – 12.00	<p>Overview of new digestate spreading and treatment technologies</p> <ul style="list-style-type: none"> · Fertilizer management · Field application for Irish conditions · Digestate processing and upgrading · Delivering to third party <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH, Kirchberg, Germany</i></p>		
12.00 – 13.00	Lunch, handout of the certificates		
13.00 – 16.30	<p>Biogas plant visit</p> <p><i>TBC</i></p>		
	End of the training.		

Programme may be subject to change