


EUROPEAN BIOSOLIDS & BIORESOURCES CONFERENCE AND EXHIBITION

16 - 17 November 2021

St James' Park, Newcastle / Online

 AquaEnviro



Tuesday 16th November

	Room 1	Room 2
09.30 – 09.35	Welcome and Opening Keynote Chair – Alec Llewellyn, Bioresources Manager, Northumbrian Water	
09.35 – 10.10	Is the UK approach to biosolids management and resource recovery sustainable – how we got to where we are and what could happen next... Keith Panter, Consultant, UK	
	Anaerobic Digestion Chair – Paul Fountain, Senior Process Expert Biosolids, Thames Water	Resource Recovery Chair – Karyn Georges, Managing Director, Isle Utilities
10.15 – 10.40	HpH Advanced Digestion Technology – What next in AMP7? Riches, S., Anglian Water, UK	An exploration of hydrogen production pathways in Bioresources McLeod, A., Horrax, S., Hughes, S., Mercer, A. and Lake, A., Jacobs, UK
10.40 - 11.05	Current full-scale operational experience and future developments of the Ephyra AD Technology and its role in achieving net zero Lavender, P., Visser, A., Koornneef, E. and Traksel, D., Royal Haskoning DHV, UK, Netherlands	Production of polyhydroxyalkanoates from anaerobically digested sewage sludge: results from B-PLAS DEMO project Torri, C. ¹ , Samorì, C. ¹ , Pagliano, G. ² , Kiwan, A. ² , Guerrini, L. ¹ , ¹ Università di Bologna, Italy, ² B-PLAS sbri, Italy

11.05 – 11.30	Break	
	Anaerobic Digestion Chair – Paul Fountain, Senior Process Expert Biosolids, Thames Water	Resource Recovery Chair – Karyn Georges, Managing Director, Isle Utilities
11.30 - 11.55	Impacts of implementation of thermal hydrolysis – UK Case Study Bajón Fernández, Y. ¹ , Nasar, N. ¹ , Carliell-Marquet, C. ² and Digby, B. ² , ¹ Cranfield University, ² Severn Trent Water, UK	Energy and resource recovery by anaerobic digestion through pyrolysis Flatabo, G.O. ^{1,2} , Svennevik, O.K. ¹ , Nilsen, P.J. ¹ , Wien, A. and Bergland, W.H. ² , ¹ Scanship/VOW AS, ² University of South-Eastern Norway, Norway
11.55 – 12.20	Developing a roadmap for quantifying and reducing fugitive methane emissions from digestion facilities Kraakman, B., Mercer, A., Harris, G., Georgi, S., Holmes, S., Smith, R. and Lake, A., Jacobs, UK	Energy recovery from sludge through production of biocrude and methane using hydrothermal liquefaction and a novel anaerobic digestion bioreactor Fonoll Almansa, X. ¹ , Schmidt, A. ² , Busch, A. ¹ , Thorson, M ² and Norton, J. Jr. ¹ , ¹ Great Lakes Water Authority, ² Pacific Northwest National Lab, USA
12.20 – 12.45	Emissions from digestate - quantification and mitigation Bungay, S. ¹ , Smyth, M. ² and Tompkins, D. ² , ¹ Helix ECL, ² Aqua Enviro, UK	Innovative biochar production and nutrient recovery from manure Gutierrez, J-P., Fraunhofer UMSICHT, Germany
12.45 – 13.45	Lunch	
	Anaerobic Digestion Chair – Matthew Smyth, Technical Director, Aqua Enviro	Resource Recovery Chair – Danny Traksel, Director Business Development, Royal HaskoningDHV
13.45 – 14.10	Results after 2 years optimizing the Utrecht and Amersfoort sludge lines with Aquasuite MINE Heijkoop, D., van de Ven, M., Tiemessen, N. and Woolley, T., Royal Haskoning DHV, UK, Netherlands	Operational experiences with vacuum degassing of digested sludge with integrated phosphate precipitation to avoid struvite scaling Dittmann, M. ¹ , Willoughby, N. ² , O'Brien, L. ² and Knörle, U. ¹ , ¹ Eliquo Technologies GmbH, ² Eliquo Hydrok Ltd, UK

14.10 – 14.35	Advances in anaerobic digestion monitoring driven by increased global focus on anaerobic digestion Inizan, M., Van der Knoop, S. and Svena Busse, K., HACH, Netherlands	Innovative sludge thickening package plant and its contribution to net-zero in sludge handling Gibson, M. and Rushworth, A., Orege UK Ltd, UK
14.35 – 15.00	Biowave™- microwave pre-treatment of recalcitrant FOG sludge for anaerobic digestion McIntyre, C. ¹ , Liu, Y. ² , Nzeteu, C. ² , O'Connor, S. ² , Feehily, K. ¹ , Holohan, C. ² , Radoiu, M. ³ , McGrath, K. ¹ , O'Flaherty, V. ² , ¹ Ashleigh Environmental, Ireland, ² National University of Ireland, Ireland, ³ Microwave Technologies Consulting, France	Sludge/Biosolids Management: Changing the perception of the problem Spinosa, L. ¹ , Ginisty, P. ² , Jenicek, P. ³ and Doshi, P. ⁴ , ¹ CNR Scientist (Retired), Italy, ² IFTS, France, ³ Univ. of Chemistry and Technology, Czech Republic, ⁴ IWA-IGR Secretary, Germany
15.00 – 15.30	Break	
	Anaerobic Digestion Chair – Matthew Smyth, Technical Director, Aqua Enviro	Resource Recovery Chair – Danny Traksel, Director Business Development, Royal HaskoningDHV
15.30 – 15.55	A novel biochar product, CreChar®, for anaerobic digestion Vaughan, D. and Mumme, J., Carbogenics Ltd, UK	Waste is only a resource in the wrong place Kisielewski, P., Hammond, P. and Reid, M., CCm Technologies Ltd, UK
15.55 – 16.20	Understanding and preventing inhibition in dry anaerobic digestion Bajón-Fernández, Y. ¹ , Rocamora, I. ¹ , Wagland, S.T. ¹ , Villa, R. ^{1,2} , Simpson, E.W. ³ , Fernández, O. ³ , ¹ Cranfield University, UK ² De Montfort University, UK, ³ Amey PLC, UK	Re-inventing end of waste Tompkins, D. ¹ and Sweet, N. ² ¹ Aqua Enviro/Suez SES, UK, ² WRAP, UK
16.20 – 16.45	Multi-variate regression for time-series anaerobic digestion data on classical and quantum architecture Lee, P-H. and Lakshith, D., Imperial College London, UK	Virtual Tour (16.20 – 17.00) The evolution of Northumbrian Water's Sludge Strategy Richard Murray, Head of Wastewater Treatment and Bioresources, Northumbrian Water, UK

		Virtual Tour of Howdon STW followed by Q&A with Tony Rutherford, Treatment Works Manager and Alec Llewellyn, Bioresources Manager, Northumbrian Water, UK
17.00 – 18.00	Drinks Reception in Exhibition Hall	

Wednesday 17th November		
	Room 1	Room 2
	Keynote Chair – David Tompkins, Head of Knowledge Exchange & Innovation, Aqua Enviro	
09:15 – 09.45	Accessing secondary markets: Heat, Biohydrogen, Biomass and other developments Kiara Zennaro, Head of Heat, The Association for Renewable Energy and Clean Technology	
	Sludge Planning and Landbank security Chair – Alison Fergusson, Associate Director, KPMG UK	Pre and Post Digestion Processes Chair – Geoff Cooper-Smith, Senior Process Engineer, Eliquo Hydrok
09.50 – 10.15	Learning from water sector experience for regional adaptive planning Alexander, Z. and Hughes, S., Jacobs, UK	Performance and operational experience of Evergreen Water Solutions' VOLUTE technology at United Utilities Moody, A. ¹ , Mannion, R. ² , Freeman, A. ¹ , Byron, R. ¹ , Horne, P. ¹ , ¹ United Utilities, UK, ² Evergreen Engineering, UK
10.15 – 10.40	The need for a national Bioresources strategy Hughes, R. and Brindle R., United Utilities, UK	The importance of trials when looking at permanent sludge dewatering solutions for a relatively uncommon sludge type Foster, D. and Sims, J., Huber Technology, UK, ² Anglian Water Services, UK

10.40 – 11.10	Break & Posters	
	Sludge Planning and Landbank security Chair – Alison Fergusson, Associate Director, KPMG UK	Pre and Post Digestion Processes Chair – Geoff Cooper-Smith, Senior Process Engineer, Eliquo Hydrok
11.10 – 11.35	Incidence and migration of PFAS in soil following long-term land application of Class B Biosolids Pepper, I., University of Arizona, USA	New VOLUTE DUO dewatering press; wider application with less wearables – field test results van Leeuwen, R., AMCON Europe s.r.o., Czech Republic
11.35 – 12.00	The Biosolids Assurance Scheme - maintaining confidence in biosolids recycling to agricultural land in the UK Grieve, D. and Taylor, M., Assured Biosolids Limited, UK	The world's first, fullscale biocatalyst driven liquor treatment plant. Performance and impacts from commissioning and operation Nair, A. and Shirazi, F., Microvi, UK
12.00 – 12.25	Unpicking Farming Rules for Water Astor, J., Regen Holdings Ltd, UK	20 years' experience with the granular sludge based Anammox® process Driessen, W. and Hendrickx, T., Paques, The Netherlands
12.25 – 13.30	Lunch	
	Panel Discussion Chair – David Tompkins, Head of Knowledge Exchange and Innovation, Aqua Enviro	
13.30 – 15.15	<p>Jacobs' 2021 review of the Bioresources Market identified a number of opportunities and constraints – the most important of the latter being uncertainty around the future of biosolids application to agricultural land. Classification of sewage sludges as wastes has had an impact on sludge processing requirements, and the EA's Sludge Strategy is creating a new framework to allow land application of treated sludges. In the meantime, interpretation and enforcement of the Farming Rules for Water are causing significant short-term disruption and may prompt a complete re-visit of landspreading. Join our expert panel to explore these issues and understand what a path through this maze might look like.</p> <p>2021 Bioresources Market Review Sam Hughes, Senior Associate Director, Jacobs</p> <p>Panel includes:</p>	

	<ul style="list-style-type: none"> • Steve Bungay, Technical Director, Helix Environmental Consultancy • Richard Lancaster, Technical Director Biosolids, Atkins • Alec Llewellyn, Bioresources Manager, Northumbrian Water • Richard Brindle, Head of Bioresources Strategy, United Utilities • Adrian Mercer, Bioresources Strategy and Delivery Lead, Jacobs
	Keynote Chair – David Tompkins, Head of Knowledge Exchange and Innovation, Aqua Enviro
15.15 – 15.45	United Utilities: Playing our part to reduce greenhouse gas emissions across our value chain Richard Brindle, Head of Bioresources Strategy, United Utilities
15.45	Close

POSTERS

B-PLAS technology on municipal sewage sludge: a case study

Kiwan, A.¹ Pirini, D.¹, Pagliano, G.¹, Torricelli, E.¹, Torri, C.^{1,2} and Collini, D.¹, ¹B-PLAS Sbrl, ²University of Bologna, Italy

Performance and operational experience of Evergreen Water Solutions' Volute technology at United Utilities

Moody, A.¹, Mannion, R.², Freeman, A.¹, Byron, R.¹, Horne, P.¹, ¹United Utilities, UK, ²Evergreen Engineering, UK