

Main sponsor:



MONDAY 9TH NOVEMBER

11.45 – 15.15 (2 tours within this time)

SITE VISIT TO DAVYHULME WASTEWATER TREATMENT WORKS

Davyhulme wastewater is United Utilities' (UU) largest wastewater treatment plant (352 Mld), serving a combined domestic and trade effluent load equivalent to 1.2 million people. It's a crucial part of UU's infrastructure in one of the most densely populated areas in Britain.



The site is also a major part of UU's sludge treatment and disposal strategy. The site processes 90,000 tonnes per annum (indigenous sludge and from 7 feeder sites), and the thermal hydrolysis and anaerobic digestion plant produce enhanced treated biosolids. CHP engines fuelled by biogas generate electrical energy for the site.

Pre-construction work is already underway for the AMP6 WFD Modernisation Project at Davyhulme, which will deliver a new inlet works and modern nitrifying activated sludge plant as well as upgrades to existing infrastructure. Due to be completed in 2018, the new works will produce a better quality of treated wastewater being returned to the Manchester Ship Canal to meet demanding new environmental discharge constraints and ensure that the treatment works will continue to meet the needs of the growing Manchester population.

The site visit is free of charge, but places are limited. IF you would like to join a tour please tick the box on the registration form. Transport will be provided from Manchester City Centre.

TUESDAY 10TH NOVEMBER

KEYNOTE PAPER

Where will the next 20 years take us?

Barber, B., AECOM

THERMAL HYDROLYSIS PROCESS

Innovative mixing and separation unit of sludges results in cost effective continuous Thermal Hydrolysis Process (cTHP)

Pereboom, J., van Dijk, L., Luning, L., Hol, A., *Sustec Consulting & Contracting bv*

How to switch successfully from conventional to THP digestion?

Masse, A-L.¹, Maclaren, J.², ¹Thames Water, ²MWH

A Practical Design Guide for Commissioning of THP Digestion

Fountain, P., Macedo, F., Shana, A., *Thames Water*

THP Organic Load ramping up strategy based on Oxford THP experience

Macedo, F.¹, Fountain, P.¹, Morris, D.², Symonds, D.¹, ¹Thames Water, ²AECOM/Kier

Treatment of WAS with Thermal Hydrolysis and Anaerobic Digestion

Williams, T.O., Burrowes, P., Fries, K., Newbery, C., Whitlock, D., *CH2M, USA*

The impact of Intermediate Thermal Hydrolysis Process and conventional Thermal Hydrolysis Process on biochemical composition during anaerobic digestion of sewage sludge

Shana, A.¹, Ouki, S.², Asaadi, M.³, Pearce, P.¹, ¹Thames Water, ²University of Surrey, ³AD Technologies Ltd

East London THP commissioning and laboratory investigations

Perrault, A.¹, Rus, E.¹, Fountain, P.¹, Merry, J.², ¹Thames Water, ²Imtech

Thermal Hydrolysis and Low Temperature Thermal Drying – Energy Optimised Biosolids Handling

Hilstroem, T.¹ and Kreuzer, G.², ¹Harslev Industries A/S, ²Haarslev Industries GmbH

Thermal Hydrolysis-Anaerobic Digestion vs Alkaline Stabilization: Comparison of Biosolids Quality from an Odor Perspective

Romero-Flores, A.¹, McConnell, L.L.¹, Hapeman, C.², Ramirez, M.³, Torrents, A.¹, ¹University of Maryland, ²USDA Agricultural Research Service, Environmental Management and Byproduct Utilization Laboratory, ³District of Columbia Water and Sewer Authority, USA

ITHP - the latest results from the realistic scale pilot plant

Rus, E.¹, Perrault, A.¹, Mills, N.^{1,2}, Nilsen, P.-J.³, ¹Thames Water, ²University of Surrey, ³Cambi AS

Standard Exelys™ Package Plant

Gilbert, A., *Veolia Water Technologies UK*

BIOECONOMY AND ENERGY RECOVERY

Identification of Sewage Sludge Co-Digestion Limits with Highly Biodegradable Co-Substrates

Manzano, J.¹, Seijas, L.², Perez, A.¹, Crespo, I.², Garcia, R.³, Suárez, J.³, Arespacochaga, N.¹, Bouchy, L.⁴, ¹Cetaqua, ²Centro Tecnológico del Agua, ³Aquambiente, ⁴Canal de Isabel II Gestión, ⁴Aqualogy UK

A Comparison of Biogas Usage Options - CHP, Turbines or Gas to Grid

Jolly, M., Knight, G., Polo, C., *Black & Veatch*

Wwtp Amersfoort (NL): conversion into an energy and nutrient factory

Geraats, B., *Eliquo Water & Energy B.V*

Cultivation of Microalgae in Urban Wastewaters for Sustainable Biofuel Production and Wastewater Treatment

Nirmala, K., *New Mexico State University, USA*

Scotland and the Bio-Economy

Golden, M., *Zero Waste Scotland*

P-RECOVERY

Bio-struvite production in sludge dewatering liquors

Simoes, F.¹, Rosa-Fernandes, C-R.¹, Vale, P.², Stephenson, T.¹, Soares, A.¹, ¹*Cranfield Water Science Institute*, ²*Severn Trent Water Ltd*

Phosphorus plant availability in sludge is much more than a simple solubility analysis

Hansen, B.¹ and Grönfors, O.², ¹*Kemira Kemi AB*, ²*Kemira Oyj*

Nutrient Recovery in Anaerobic Digesters to Control Struvite Formation in Downstream Processes

Ndam, E.N.¹, Graham D.W.¹, Moore, A.², ¹*Newcastle University*, ²*Northumbrian Water Ltd.*

WASSTRIP® optimisation at Slough Sewage Treatment Works

Lycke, D.¹, Britton, A.¹, Kleeman, R.², Mills, N.², ¹*Ostara*, ²*Thames Water*

Comparison of Phosphorus Recovery from Pyrolysis & Incineration Residues

Kleeman, R.^{1,2}, Chenoweth, J.¹, Clift, R.², Germain-Cripps, E.², Morse S.¹, Pearce, P.², Saroj, D.³, ¹*Centre for Environmental Strategy, University of Surrey*, ²*Thames Water*, ³*Department of Civil and Environmental Engineering*

Phosphorous Recovery in a Circular Economy

Godley, A.¹ Wise S.¹ and Conlan K.², ¹*Ricardo*, ²*Cascade Consulting*

UK NUTRIENT PLATFORM SESSION

The session is funded by the INTERREG IVB NWE project '[BioRefine](#)' promoting the development of a cross sector UK Nutrient platform for all stakeholders with interests in sustainable nutrient use and recycling, nutrient management and security and environmental impact.



The session will include a description of the vision of the Platform, setting out some of the aspirations identified at the recent 'road mapping' workshops. It will also explain how it will interact with relevant European networks dedicated to nutrient conservation and recovery.

ANAEROBIC DIGESTION

How Lime Pretreatment Improves Your Biogas Yield

Heiszwolf, J.¹, Dobbe, R.², Thompson, D.³, ¹*Lhoist Business Innovation Centre, Belgium*, ²*Lhoist Western Europe, the Netherlands*, ³*Lhoist Northern Europe, UK*

First aid at digester instability - Kick dose of trace elements

Nilsson, B., Olsson, H., *Kemira Kemi AB*

Towards a new predictive model for foaming in anaerobic digesters

Kanu, I.R., Aspray, T.J., Adeloye, A.J., *Heriot Watt University, Edinburgh*

The Wanlip Sludge Project: from optioneering to commissioning of a new 28,000t/a acid phase digestion plant

Lewin, I.¹, van Brummelen, S.², Luck, R.³, ¹*MWH*, ²*Costain*, ³*Severn Trent Water*

Improving process reliability, methane production and disposal costs on AD plants accepting food waste

Sims, J., *Huber Technology*

High Performance Anaerobic Digestion

Parry, D., *CH2M, USA*

Digester Outage Management

Winter, P., Linsell, D., Onanuga, A., Waghorn, A., and Williams A., *Thames Water*

Characterization of Biosolids from an Anaerobic Membrane Bioreactor Treating Municipal Wastewater: Impact on Membrane Fouling and Sludge Treatment

Dong, Q.^{1,3}, Dagnew M.², Cumin J.², Parker W.¹ and Dold, P.³,¹*University of Waterloo, Canada*, ²*GE Water and Process Technologies, Canada*, ³*EnviroSim Associates Ltd, Canada*

Specific biomethane potential of organic wastes for anaerobic digestion in the Pomeranian region of Poland

Szatkowska, B. and Paulsrud, B., *Aquateam COWI, Norway*

Enhanced High-Solid-Content Anaerobic Digestion Treating Waste Activated Sludge

Wu, J.¹, Cao, Z.P.¹, Wang, G.Q.^{1,2}, Rehman, Z. Ur¹, HU, Y.Y.¹, Cheng, C.¹, Zuo, J. E¹, Wang, K.J.¹,¹*Tsinghua University, China*, ²*China Northwest Architecture Design and Research Institute Co. LTD., China*.

FUTURE MARKETS FOR SLUDGE: DE-REGULATION OR RE-REGULATION?

An open discussion session with presentations from Alison Fergusson, Principal at Ofwat
Further details coming soon...

WEDNESDAY 11th NOVEMBER

KEYNOTE PAPERS

20 Years of Progress in Biosolids Handling and Treatment

Whipps, A.¹ and Lowe, P.², ¹*Pell Frischmann*, ²*Consultant and Conference Founder*

Forty Years in the Black Stuff

Evans, T., *TIM EVANS ENVIRONMENT*

A Comparison of Biosolids Management between the UK and Other Global Utilities – the Effect of Externalities and Regulation

Panter, K., *Ebcor Ltd*

DIGESTATE AND BIOSOLIDS

Digestate quality: Where does the buck stop?

Tompkins, D., *Aqua Enviro Ltd*

Assessing the Soil Quality and Fertility Benefits of Biosolids Applied to Agricultural Land

Nicholson F.¹, Taylor, M.¹, Bhogal A.¹, McGrath S.¹ and Withers P.³, ¹*ADAS*, ²*Rothamsted Research*, ³*Bangor University*

Assessment of Risk to Soil Quality and Human Health from Organic Contaminants in Materials Commonly Spread on Land in Scotland

Cundill, A.¹, Peters A.², Merrington G.², Wilson I.², Stutt, E.², ¹*Scottish Environment Protection Agency*, ²*WCA Environment Limited*

A Fresh Perspective on Wastewater Treatment Plants (WWTPs) As Hotspots of Environmental Antibiotic Resistance

Pepper, I., *The University of Arizona*

From Sludge to Biosolids to Organic Fertilisers – Norway’s Experiences over the Past 20 Years

Tornes, O.¹ and Whipps, A.², ¹IVAR IKS, Norway, ²Pell Frischmann

Benefits and Problems Associated With Sewage Sludge Spreading to Land in Scotland – Results from an Eight Year Study

Cundill, A.¹, Erber C.¹, Dobbie K.¹, ¹Scottish Environment Protection Agency

Doing it differently: AD and composting in Scotland

Tompkins, D.¹, Litterick, A.², McKinnie, A.³, ¹Aqua Enviro Ltd, ²Earthcare Technical Ltd, ²Zero Waste Scotland

Stabilization and Product Enhancement of Sludge from Wastewater Treatment Plants for Usage in Agriculture

Ajro, V., International University of Struga

Novel uses for digestate: Protected horticulture

Dimambro, M.E., Cambridge Eco Ltd

SIDESTREAM PROCESSES

A Battle to Be the Best: A Comparison of Two Powerful Sidestream Treatment Technologies: Post Aerobic Digestion and ANAMMOX

Williams, T.O., Bauer, H., Johnson, T.D., Johnson, B.R., Oerke, D., CH2M, USA

The Potential of the ANAMMOX® Process: An overview of applications and experience

Driessen, W.¹, Remy, M.¹, Hendrickx, T.¹, Loosdrecht, van M.², ¹Paques BV, The Netherlands, ²Technical University Delft, The Netherlands

DEWATERING AND DRYING

Assessing the ultimate dewaterability of sludge

Herron, D., Aqua Enviro Ltd

Flocformer, an Innovative Solution for Advanced Dewatering: 2 Case Studies

Bouchy, L. and Schröder, C., Aqualogy Environment Ltd

New Bucher HPS 12007 Sludge Press with Low Energy Consumption

Pinnow, D., and Huppert, M., Bucher Unipektin

Sludge Dewatering Optimisation for the CAMBI Process – Bransands Case Study

Ainsworth, S., Hach Lange

One year of Bucher Press operational experience at Oxford STW

Macedo, F.¹, Fountain, P.¹, Huppert, M.², Pinnow, D.², Webb, I.¹, ¹Thames Water, ²Bucher Unipektin

Packaged Sludge Thickening and Dewatering

Willis, R., Huber Technology

Cambi SolidStream® High Dry Solids Technology – The versatile solution to cake reduction

Nilsen, P.J.¹, Solheim, O.E.¹, Traa, L.P.¹, Kjoerlaug, O., Cambi Group

Solids-Liquid-Gas (SLG) separation technology for sludge treatment: Results from a pilot scale trial by Anglian Water

Inman, D.¹, Moreels, P.², ¹Anglian Water Services (UK), ²Orege, France

Modern Belt Drying of Sludge – Innovative Sludge and Energy Management

Heindl, A., Ostermann, S., Dürr, J., HUBER SE

Innovative Cooling Solution for Biosolids

Sutherland, N. and Nix, A., *Solex Thermal Science Inc., Canada*

Optimised Cake Handling considerations for Sludge Reception, Storage and AAD Process Feed

Neal, M., *Saxlund International Ltd*

Andritz Gouda sludge Paddle Drying System (GPD) within a cement works

Weeks, M.¹ and Maingay, M.², ¹*Andritz Limited*, ²*Andritz Gouda*

How to dry sludge with no heat? Full-scale example of a sewage sludge thermal drying process combined with a cement factory

Lucy, M., Bouchy, L. Arauzo, I., *Aqualogy Environment Ltd*

ODOUR MANAGEMENT

Electronic Nose and Biosolids: An Assessment of Potential Applicability for Production Process Control

Romero-Flores, A.¹, McConnell, L.L.¹, Hapeman, C.², Ramirez, M.³, Torrents, A.¹, ¹*University of Maryland*, ²*USDA Agricultural Research Service, Environmental Management and Byproduct Utilization Laboratory*, ³*District of Columbia Water and Sewer Authority, USA*

Odour Treatment with a High Efficiency Advanced Biofilter in a Large Municipal Wastewater Treatment Plant Located in the North of Spain

Bouchy, L.¹ and Nadal, S.², ¹*Aqualogy Environment Ltd*, ²*Labaqua*

THE FUTURE OF SEWAGE SLUDGE AND THE DRIVERS AND OBJECTIVES FOR INNOVATION

This session will feature:

- High level summary from the SludgeTech conference
- A presentation from one of the top papers from the conference
- A panel debate with representatives from: academia, technology companies, policy makers, water companies and consultancies

**Please note timings and room allocations will be released in September*

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