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EUROPEAN BIOSOLIDS & BIORESOURCES CONFERENCE & EXHIBITION

19 - 20 Nov 2024

The Point at Emirates Old Trafford,
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DRAFT PROGRAMME

TUESDAY 19 th NOVEMBER
PROCESS EMISSIONS AND THE JOURNEY TO NET ZERO
The fully sustainable biogas, graphene & hydrogen loop Hill, S. ¹ , Clarke, R. ¹ , Lloyd, M. ² and Mansell, L. ¹ , ¹ United Utilities, UK, ² Levidian, UK
Best available techniques for minimizing leaks and compliance with the Industrial Emissions Directive Cox, E., Assentech Sales Ltd, UK
Potential of vacuum degassing at Thames Water - impact on dewatering and methane emissions from THP-treated sludge Fountain, P. ¹ , Gejam, E. ¹ , Dittmann, M. ² , Knörle, U. ² , Hopkins, A-M. ³ and Willoughby, N. ³ , ¹ Thames Water, UK, ² ELIQUO TECHNOLOGIES, Germany, ³ ELIQUO HYDROK, UK
Do methane losses from anaerobic digestion compromise sustainability of renewable energy generation? Bajon Fernandez, Y., Michalakakis, C. ² and Bateman, C. ² , ¹ Cranfield University, UK, ² Department of Energy Security and Net Zero – DESNZ, UK
Residual biogas - what does good look like? Bungay, S. ¹ , Fountain, P. ² , Smyth, M. ³ , Mann, J. ¹ , ¹ AD Ingenuity LLP, UK, ² Thames Water, UK, ³ Aqua Environment Solutions Ltd, UK
Quantified though bioresources process simulation – supporting low cost, low carbon futures Lake, A. ¹ , Kraakman, B. ¹ , Bungay S. ² , Alexander, Z. ¹ , ¹ Jacobs, UK, ² ADIngenuity, UK
Quantum gas lidar for methane emission measurement from biogas assets Harrison, A. ¹ , Srinamasivayam, B. ¹ , Van Pelt, A. ² , Lindsay, G. ² , Went, C. ¹ , Megal, L. ¹ , Challis, L. ¹ and Singh, E. ¹ , ¹ Severn Trent Water, UK, ² QLM Technology Ltd, UK
Process safety and the added benefits of loss prevention in the control of greenhouse gas emissions Jeavons, J., Stantec, UK
Scottish Water digitally-enabled journey to net zero Giacalone, S. ¹ , Reid, G. ² and Cartmell, E. ² , ¹ Business Modelling Applications, UK, ² Scottish Water, UK

PANEL DISCUSSION: A CONVERSATION ABOUT RESIDUAL EMISSIONS
<p>Chair: Matthew Smyth, Director, Aqua Environment Solutions Ltd</p> <p>Panel:</p> <ul style="list-style-type: none"> • Clive Humphreys, Senior Advisor, Environment Agency • Yadira Bajon-Fernandez, Senior Lecturer in Bioresources Science and Engineering, Cranfield University • Paul Fountain, Senior Consultant Biosolids, Thames Water
LANDBANK CHALLENGES
<p>Eco-toxicological and climate change effects of sludge thermal treatments: Pathways towards zero pollution and negative emissions Svennevik, O.K.¹, Jahre Nilsen, L.P.¹, Cherubini, F.², Morales, M.², Arp, H.P.³, Castro, G.^{4,2}, Asimakopoulos, A.², Sørmo, E.³ and Peters, G.⁵, ¹VOW ASA, Norway, ²Norwegian University of Science and Technology, Norway, ³Norwegian Geotechnical Institute, Norway, ⁴University of Santiago de Compostela, Spain, ⁵Chalmers University of Technology, Sweden</p>
<p>Agricultural use of biosolids: Farmer perspectives and evidence of environmental risks Cloy, J.¹, Kitching, N.¹ and Hough, R.², ¹Fidra, UK, ²The James Hutton Institute, UK</p>
<p>Comparing the carbon footprint of pyrolysis for PFAS removal to land application of biosolids cake Barber, B., Cambi Inc., USA</p>
<p>Is land application of biosolids a significant source of human PFAS exposure? Pepper, I., Prasek, S.M. and Brusseau, M.L., University of Arizona, USA</p>
<p>Biosolids planning for an uncertain future – how regulatory drivers and technology developments are influencing long-term infrastructure decisions Auerbach, E.¹, Kikale, P.¹, and McClure, A.², ¹Arcadis, UK, ²City of Toledo, USA</p>
PANEL DISCUSSION: BIORESOURCES STRATEGY
<p>Details to be announced soon!</p>
THERMAL AND BIOLOGICAL HYDROLYSIS
<p>Road to net zero – intermediate thermal hydrolysis in large WWTP Rus, E.¹, Ringoot, D.² and Kosciukiewicz, J.³, ¹Cambi Group, UK, ²Cambi Group, Denmark, ³Cambi Group, Poland</p>
<p>Operational experience and performance evaluation of changing thermal hydrolysis pressure from 6 barg (165°C) to 2.6 barg (145°C) at a full scale advanced anaerobic digestion facility Devlin, D., Dwr Cymru Welsh Water, UK</p>
<p>Experiences of recommissioning acid phase digestion at Claymills STF Went, C., Challis, L. and Bancroft, A., Severn Trent Water, UK</p>
<p>Full scale application of thermal hydrolysis with lower thermophilic anaerobic co-digestion yields higher throughput at Tarnow Waterworks, Poland Mukawa, J.¹, Sahu, A.J.², Ringoot, D.², Niedzielska, A.², Somodea, A.² and Finstad, T.², ¹Operations, Tarnow Waterworks, Poland, ²Cambi Group AS, Norway</p>

<p>Optimising the heat balance of HELEA® for CHP and GtG installations to deliver the sustainable route to advanced digestion Oliver, B.¹, Jaques, A.¹, and Constable, K.², ¹Royal HaskoningDHV, ²Anglian Water, UK</p>
<p>Partial THP with sequential AD - addressing IED Rus, E.¹, Fountain, P.², Shana, A.¹ and Panter, K.³, ¹Cambi Group, UK, ²Thames Water, UK, ³Freelance, UK</p>
<p>ADVANCING ANAEROBIC DIGESTION</p>
<p>Assessing the effect of thermal drying on AAD energy balances Merry, J., Stantec, UK</p>
<p>Ephyra® plug-flow digestion – latest design developments and update on UK projects Kabir, M., Royal HaskoningDHV, UK</p>
<p>Maximising value from biogas with biogas operational services Meijers, C. DMT Environmental Technology, The Netherlands</p>
<p>ADVANCED THERMAL CONVERSION PROCESSES</p>
<p>FIREFLY - sewage sludge to sustainable aviation fuel Askey-Wood, J.¹, Lima, S.¹, Douthwaite, M.¹, Black, S.² and Inman, D.², ¹Firefly Green Fuels, UK, ²Anglian Water, UK</p>
<p>Latest news from AquaGreen on biosolids drying and pyrolysis projects in Denmark Wieth, C., AquaGreen ApS, Denmark</p>
<p>Exploring the unique attributes of hydrothermal oxidation as a compelling bioresource processing technology Gapes, D.¹, Jefferson, B.², Lei, R.¹ and Stuthridge, T.¹, ¹Cetogenix Ltd, New Zealand, ²Cranfield University, UK</p>
<p>Biosolids Carbonisation: Key design parameters and relationship with plant operation Al-Saleem, M., Stantec, UK</p>
<p>Evaluation of sewage sludge for processing in autothermal pyrolysis Pedros, P.¹, Daugaard, T.² and Brown, R.², ¹Mott MacDonald, USA, ²Iowa State University, USA</p>
<p>Enhancing wastewater treatment efficiency through biochar: a circular economy approach Vellingiri, K., Hitaishi, R., Chelliah, C. and Kumar, P.G., L&T Construction, India</p>

<p>WEDNESDAY 20th NOVEMBER</p>
<p>ADVANCED THERMAL CONVERSION PROCESSES</p>
<p>Biochar production from screening waste Vaughan, D., Carbogenics Ltd, UK</p>
<p>Siloxanes in producer gas from pyrolysis of sewage sludge and a potential solution Pedros, P.¹, Knörle, U.² and Kukreja, A.³, ¹Mott MacDonald, USA, ²ELIQUO Technologies GmbH, Germany, ³Durr Systems, Inc., USA</p>

<p>Biosolids valorisation technology for closed-loop resource recovery Meyer, J., Onunda Ltd, UK</p>
<p>PANEL DISCUSSION: ADVANCED THERMAL CONVERSION – EXPLORING £12MILLION OF OFWAT INNOVATION PROJECTS</p>
<p>Chair: Matthew Smyth, Director, Aqua Environment Solutions Ltd</p> <p>Speakers/Panellists:</p> <ul style="list-style-type: none"> • Richard Kershaw, Wastewater R&D Innovation Programme Manager, Yorkshire Water • Peter Winter, Principal Research Engineer, Thames Water • Pete Vale, Carbon & Circular Economy Architect, Severn Trent Water • David Inman, Innovation Project Manager, Anglian Water <p>View full details here.</p>
<p>CIRCULAR ECONOMY AND THE ROLE FOR NUTRIENT RECOVERY</p>
<p>Scottish Water resource recovery factory Wilson, R.¹, Banfield, P.¹, Bullen, A.¹, Talboys, P.¹, Pari, G.¹, Kennedy, T.², Hemple, G.², Adams, G.² and Halley, C.², ¹AtkinsRéalis, UK, ²Scottish Water, UK</p>
<p>(Bio)refining our circular economy futures, together Lake, A.¹, Pickershill, M.², Rawlinson, D.², le Roux, A.³, Samberger, C.³ and Oliver, B.⁴, ¹Jacobs, UK, ²Northumbrian Water, UK, ³Stantec, UK, ⁴Royal HaskoningDHV, UK</p>
<p>Exploring cellulose recovery from wastewater in Saudi Arabia: opportunities for advancing the circular economy in NEOM Aljohani, S. and Ragab, A., ENOWA – NEOM, Saudi Arabia</p>
<p>Circularity of biosolids treatment pathways: a screening tool Samberger, C., Stantec, UK</p>
<p>Biopolymers in the circular economy Clarke, R.¹, Shortland, G.¹ and Lavender, P.², ¹United Utilities, UK, ²Royal HaskoningDHV, UK</p>
<p>The future of hydrogen production in the UK water sector Samberger, C.¹, Brown, D.¹, Le Roux, A.¹, Futter, M.¹, Anderson, H.², Cawthorne, L.², Andresen, J.³, ¹Stantec UK, ²Ikigai, UK, Heriot Watt University, UK</p>
<p>Aqua2N: Turning critical ammonium streams into a climate friendly fertilizer Altenburg, S. and Cohen, Y., EasyMining Services Sweden AB</p>
<p>The use of biochar towards a circular economy- optimisation of chemically activated biochar for aqueous phosphate recovery McFadden, M.¹, Zhang, X.¹, Fletcher, A.¹, Davidson, C.¹ and Kerr, S.², ¹The University of Strathclyde, UK, ²Sustainable Thinking Scotland CIC, UK</p>
<p>ADVANCING ANAEROBIC DIGESTION</p>
<p>Introducing OpsMod: a powerful operations modelling app to optimise energy and carbon emissions for advanced anaerobic digestion sites at Northumbrian Water Laing, H.¹, Browne, A.¹, Willis, M.² and O'Malley, C.², ¹Northumbrian Water Ltd, UK, ²Newcastle University, UK</p>

<p>Enhancing anaerobic digesters efficiency through thermal pre-treatment: impacts on sludge composition and trace element bioavailability in full-scale sites Nasar, N.¹, Pizzagali, G.², Coulton, F.¹ and Bajon-Fernandez, Y.¹, ¹Cranfield University, UK, ²Anglian Water, UK</p>
<p>Anaerobic MBR bringing use to wastewater van 't Oever, R., PENTAIR X-Flow, The Netherlands</p>
<p>Delivering the next generation of AD plants Le Roux, A., Stantec UK</p>
<p>AMP8 AND BEYOND</p>
<p>AMP 7 - How was it for you? Cherry, I., Severn Trent Water, UK</p>
<p>Building a resource recovery prioritisation tool for the UK and Ireland Talboys, P.¹, Stewart, M.¹, Bajon-Fernandez, Y.², Brown, E.¹, Lancaster, R.¹, Luqmani, B.¹, Menezes, H-K.¹, Piechoczek, E.¹, Shaffer, P.³, Soares, A.², Westlake, S-J.¹ and Wilson, R.¹, ¹AtkinsRéalis, UK, ²Cranfield University, UK, ³CIWEM, UK</p>
<p>THICKENING, DEWATERING & LIQUOR TREATMENT</p>
<p>Data, decanters and digital: real life benefits of using advanced process control to optimize sludge dewatering McWeeney, B. and Tiemessen, N., Royal HaskoningDHV, The Netherlands</p>
<p>MABR-aided Partial Nitritation and Anammox (PN/A) for side-stream nitrogen removal in reject water from anaerobically digested sludge: from pilot- to full-scale Guglielmi, G.¹, Long, Z.², Donnaz, S.², Di Pofi, M.¹, Coutts, D.³, Baumgarten, S.⁴, Peeters, J.², ¹Veolia Water Technologies & Solutions (VWTS), Italy, ²VWTS, Canada, ³VWTS, UK, ⁴VWTS, Germany</p>
<p>ANAMMOX - 20 years' experience and latest developments Driessen, W.¹, Morales, J.A.², Verwij, D.³ and Went, C.⁴, ¹Paques Global bv, The Netherlands, ²Cadagua, Spain, ³Paques Europe, The Netherlands, ⁴Severn Trent Water, UK</p>
<p>Fast biosolids dewaterability assessment for evaluation and optimization purposes Mischler, J-F. and Mutlu, Y., Bucher Unipektin AG, Switzerland</p>
<p>Enhanced sludge dewatering and thickening performance with new decanter technology for a sustainable future Novikov, G., Alfa Laval, Denmar</p>

<p>POSTERS</p>
<p>Development and traceability of biomass value chains for the conversion of waste into raw materials Álvarez, M.R.¹, de Sousa, M.A.B.¹, Pavón, P.M.¹, Sobrado, R.V.¹, Nóvoa, V.N.¹, Costa, B.J.¹, Paz, D.M.¹, Villanueva-Rey, P.² and Monjardin, L.J.G.², ¹ANFACO-CECOPESCA, Spain ²Galician Water Research Centre Foundation, Spain</p>
<p>Use of organic waste from black soldier fly breeding Portela, A., Jaramillo, C.A.P. and Sanchez, N.E.R., University of Antioquia, Colombia</p>

<p>Evaluating the suitability of biosolids-derived biochar in addressing nutrient requirements from arable land Wellings, W., Cranfield University, UK</p>
<p>Municipal sludge dewatering optimization via ultrasound TSS concentration measurements: Correlating sludge concentration & centrate TSS Gladinez, K. and Wouters, J., Olpas BV, Belgian Nuclear Research Centre, Belgium</p>
<p>Innovations in sludge management: a meta-analysis of trends in practices and technologies Gouws, F.¹, Ramcharan-Kotze, C.¹, Valladares-Linares, Rodrigo.² and Burgess, J.³, ¹Isle Utilities South Africa, ²Isle Utilities Latin America, ³Isle Utilities, UK</p>
<p>The use of biochar towards a circular economy- optimisation of chemically activated biochar for aqueous phosphate recovery McFadden, M.¹, Zhang, X.¹, Fletcher, A.¹, Davidson, C.¹ and Kerr, S.², ¹The University of Strathclyde, UK, ²Sustainable Thinking Scotland CIC, UK</p>

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