Tuesday 22nd November

KEYNOTE SPEAKERS

Contribution of biofertilizer soil amendments to net zero agriculture

Dr. Jonathan Scurlock
Chief Advisor, Renewable Energy and Climate Change, National Farmers Union

PR24 – What the draft methodology will mean for bioresources

Alex Whitmarsh
Principal in OFWAT's PR24 Team

ADVANCED THERMAL CONVERSION TECHNOLOGIES AND THEIR OUTPUTS

Gasification of biosolids: a comparison of two different approaches
Willoughby, N.[1], McDonald, C.[2], O'Brien, L.[1], Knörle, U.[3] and Sellers, E.[3], [1]Eliquo Hydrok, UK, [2]Logan Water Partnership, Australia, [3]Eliquo Technologies GmbH, Germany

Activated carbon production and phosphorous recovery from industrial sludge by application of an integrated thermo-chemical treatment
Di Bianca, M.[1], Salimbeni, A.[1,2], Rizzo, A.M.[1,2] and Chiaramonti, D.[1,2], [1] RE-CORD, Italy; [2]University of Florence, Italy, [3]Polytechnic of Turin, Italy

Integrated steam-drying and pyrolysis of biosolids - results and takeaways from the world's first operational full scale implementation in Denmark
Pederson, A.N. and Wieth, C., AquaGreen ApS, Denmark

Converting sewage sludge to biochar: a review of options and feasibility
Piechoczek, E.[1], Bajón Fernández, Y.[2], Lancaster, R.[1], Longhurst, P.[2], McAdam, E.[2], Thompson, A.[1], Wagland, S.[2], Westlake, S.-J.[1] and Wilson, R.[1], [1]Atkins, UK, [2]Cranfield University, UK

Biosolids to biochar journey and biochar properties from Australia's first fluidised bed pyrolysis technology
Surapaneni, A.[1], Shah, K.[2], Bergmann, D.[1] and Casey, E.[1], [1]South East Water, Australia, [2]RMIT University, Australia

Biosolids to biochar - a business case perspective
Casey, E., Surapaneni, A. and Bergmann, D., South East Water, Australia

Co-pyrolysis of biosolids with alum sludge and lignocellulosic biomass: Product yield and quality assessment
Rathnayake, N.[1,2], Patel, S.[1,2], Pazferreiro, J.[1], Sharma, A.[1,2,3], Surapaneni, A.[2,4] and Shah, K.[1,2], [1]RMIT University, Australia, [2]ARC Training Centre on Advance Transformation of Australia's Biosolids Resources, [3]Manipul University Jaipur, India, [4]South East Water, Australia

Validating applicability of obtained biomaterials by means of pyrolyzed sewage sludge
Monsalvo Garcia, V., Fernández Fernández, I. and Giménez Lorang, A., Aqualia, Spain

THERMAL AND BIOLOGICAL HYDROLYSIS

Reducing steam demand in THP
Lillebø, A.H., Rasmus Holte, H., Botan, A. and Brinch, J., Cambi, Norway

HELEA®, the sustainable, energy efficient route to advanced digestion
Oliver, B.[1] and Riches, S.[2], [1]Royal HaskoningDHV, UK, [2]Anglian Water, UK

THP upgrade for process intensification - a case study
Svensson, K., Cambi, Norway

Challenges and lessons learned from digitalizing Cambi THP plants
Botan, A., Minasidis, V. and Dadgar, F., Cambi, Norway

ANAEROBIC DIGESTION

Scenarios for improved biogas yield through pyrolysis
Flatabo, G.O.[1,2], Kjorlaug Svennevik, O.[2], Jahre Nilsen, P.[2], Wein, A.[2] and Hennie Bergland, W.[1], [1]University of South-Eastern Norway, [2]VOW, Norway

Investigating sludge overflow from anaerobic digesters at Seafield wastewater treatment works - sharing experience
Hafeez, N., Veolia, UK

Best practices for reducing the costs of anaerobic digestion
Bourenane, N., BiogasWorld, UK

Conversion of existing AD and AAD reactors into Ephyra – more capacity, improved efficiency - A Net Zero quick Win
Lavender, P.[1], Oliver, B.[1] and Visser, A.[2], [1]Royal HaskoningDHV, UK, [2]Royal HaskoningDHV, Netherlands

ISSUES AND OPPORTUNITIES IN LAND APPLICATION OF RESIDUALS

Is land application of municipal biosolids a significant source of human PFAS exposure
Pepper, I., University of Arizona, USA

Biosolids-to-land carbon emissions and benefits - A Sydney Water case study
McLeod, A.[1], Lake, A.[1], Moore, J.[1], Fielke, M.[1], Woods, P.[2], Davis, J.[2], Galway, B.[2] and Wood, M.[2], [1]Jacobs, UK, [2]Sydney Water, Australia

The Biosolids Assurance Scheme – maintaining confidence in biosolids recycling to agricultural land in the UK
Grieve, D. and Taylor, M., Assured Biosolids Ltd, UK

So what if there are microplastics in bioresources?
Tompkins, D. and Fonseca Aponte, L., SUEZ/Aqua Enviro, UK

Measuring microplastics in UK composts and digestates: Data and methodological challenges
Fonseca Aponte, L. and Tompkins, D., SUEZ/Aqua Enviro, UK

Simple, rapid analysis of E. coli and thermotolerant (faecal) coliforms in biosolids using the TECTA bacteria detection system
Wolfe, P.[1], Marcotte, E.J.P.[1], Brown, S.R.[2] and O'Donnell, L.[2], [1]Tectra-PDS, Canada, [2]Queen's University, Canada

Exploring future digestate impact mitigation options for the Green Gas Support Scheme
Fonseca Aponte, L.[1], Tompkins, D.[1] and Palmer, G.[2], [1]SUEZ/Aqua Enviro, UK, [2]WRAP, UK

Can sorption potential help to predict contaminants of concern?
Monkhouse, C., SUEZ/Aqua Enviro, UK

BIORESOURCES STRATEGY

Sponsored by ATKINS
Member of the SNC-Lavalin Group

Using the Water UK Bioresources Strategy for England as a jumping-off point, this session will include facilitated round-table and panel discussions around key issues facing markets for biosolids.

Developing a long-term strategy for bioresources in England
Piechoczek, E.[1], Bajón Fernández, Y.[2], Lancaster, R.[1], McAdam, E.[2], Shaffer, P.[3], Sutherland, J.[1], Westlake, S.-J.[1] and Wilson, R.[1], [1]Atkins, UK, [2]Cranfield University, UK, [3]CIWEM, UK

Unlocking bioresource market growth using a collaborative decision support tool
Giacalone, S.[1] and Riches, S.[2], [1]Business Modelling Associates (BMA), UK, [2]Anglian Water, UK

Wednesday 23rd November

BIORESOURCES IN THE CIRCULAR ECONOMY: CHALLENGES AND PROSPECTS

Innovation and integration: needs and advances
Vaneeckhaute, C., Université Laval, Canada

Regulations and commercial prospects: challenges and opportunities for bringing products to the market
van Spingelen, R., RecyFert. B.V., Netherlands

Circular economy: beyond net zero and sustainable development goals
Lake, A., Jacobs, UK

Kaumera Nereda® Gum – An update on developments of organic chemical products from sludge
Lavender, P., Royal HaskoningDHV, UK

Novel product formulations: Does pyrolysis of sewage sludge reduce emerging contaminants?
Schlederer, F., Université Laval, Canada

Producing green hydrogen from OFMSW
Beesey, A. and Theaker, H., Alps Ecoscience UK Ltd, UK

Realising the value in our waste - a bespoke resource recovery assessment for Thames Water
Wilson, R.[1], Piechoczek, E.[1], Lancaster, R.[1], Westlake, S.-J.,[1], Strange, G.[1] and Hardman, A.[2], [1]Atkins, UK, [2]Thames Water, UK

Financial and environmental impact with byproducts from drinking water production
Remmers, J. Thijssen, R. and Olde Weghuis, M., Vitens N.V., Netherlands

THICKENING, DEWATERING & LIQUOR TREATMENT

THP cake product drying with non-thermal treatment methods
Alexander, Z.[1], Williams, T.[2] and McLeod, A.[1], [1]Jacobs, UK, [2]Jacobs, USA

Enhanced cake dryness and granulation from dewatering technology
Deighton, J. and Hanson, J.D., GEA Westfalia Separator Group GmbH

Post digestion liquor treatment using the DEMON process
Bungay, S.[1], Soares, A.[2] and Stephenson, T.[2], [1]Helix ECL, UK, [2]Cranfield University, UK

Biological hydrolysis as a pre-treatment: impact on sludge dewaterability
Courbet, C.[1], Haddad, M.[1], Gove, L.[2], Wong, W.[3] and Bajón Fernández, Y.[4], [1]SUEZ, France, [2]Anglian Water, UK, [3]Wessex Water, UK, [4]Cranfield University, UK

Advanced dewatering for most conventional to most innovative conditioning
Mischler, J.-F., Bucher Unipektin AG, Switzerland

Lysate thickening and its positive effect on the anaerobic digestion process and sludge dewatering
Falterer, M., Hiller GmbH, Germany

Did we reach utopia?
Foster, D., Huber Technology, UK

UNDERSTANDING AND ADDRESSING PROCESS EMISSIONS

Feasible and effective reduction of N2O emission from farmland by using organic wastes as substrates and vectors for N2O-reducing bacteria
Jonassen, K.R., Hiis, E.G., Vick, S., Molstad, L. and Bakken, L., Norwegian University of Life Sciences, Norway

Pre and post digestion biogas hazards
Goodwin, T.[1], Mann, J.[1] and Bungay, S.[2], [1]Marches Biogas, UK, [2]Helix ELC, UK

Using robotic and autonomous systems to monitor methane emissions in sludge treatment centres
Hiniduma Gamage, K.A., Rivas Casado, M. and Bajón Fernández, Y., Cranfield University, UK

Let's LDAR like we're in a climate crisis
Lake, A.[1], Gerogaki, S.[1], Grant, B.[2], Kraakman, B.[1], Thursfield, G.[3] and Merry, T.[1], [1]Jacobs, UK, [2]Envirocare, UK, [3]Environmental Monitoring Solutions, UK

Achievable steps towards net zero. Reporting on a full-scale, extensive trial of digested sludge degassing with ELOVAC technology mitigating fugitive methane gas emissions to the atmosphere
Willoughby, N.[1], Frankl, S.[2], O'Brien, L.[1], Dittmann, M.[3] and Knörle, U.[3], [1]Eliquo Hydrok, UK, [2]Scottish Water, UK, [3]Eliquo Technologies GmbH, Germany

BIOINFORMATICS

The promise of bioinformatic techniques is that they will allow us to optimise biological processes from the bottom up. This session will explore recent advances to understand how close we are to routine practical application of these techniques.

Optimising bioresources: metagenomics
Smyth, M. and Sheeran, K., SUEZ/Aqua Enviro, UK

POSTERS

Integrated steam-drying and pyrolysis of biosolids - results and takeaways from the world's first operational full scale implementation in Denmark
Pederson, A.N. and Wieth, C., AquaGreen ApS, Denmark

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Jonassen, K.R., Hiis, E.G., Vick, S., Molstad, L. and Bakken, L., Norwegian University of Life Sciences, Norway

SENTRY: Real-time microbial performance monitoring in wastewater treatment systems
Lamb, N., QuadraChem Laboratories, UK

Supporting Organisations