

Anaerobic Digestion in the UK - Is there life beyond fiscal incentives?

28th March, The Studio, Leeds

9.00 – 9.30 Registration

Session 1: Setting the scene

9.30 – 10.00 **UK Incentives and the wider context**
Dr Kiara Zennaro, Head of Biogas, Renewable Energy Association

10.00 – 10.30 **The investors' forward view of AD**
Richard Barker, Advisor and Investment Committee Member, IONA

- Looking at Investor's experience with AD historically
- Setting the context for AD – how it fits alongside other environmental investment opportunities
- How to make AD investable moving forward

10.30 – 11.00 **Evolving the UK AD sector – looking back to plan forward**
Mark Christensen, Director, BioSci

- Why AD can't survive without fiscal incentives at the moment.
- How can we overcome this?
- Evolving the bioeconomy sector

11:00 – 11.15 Break

11.15 – 11.45 **Title to be confirmed**
Harriet Parke, Senior Consultant, Eunomia Research & Consulting

11.45 – 12.00 **Panel Discussion**

Session 2: Sector-specific perspectives

12.00 – 12.30 **Understanding Incentives in the Context of the Overall Cost of Treatment – a UK Wastewater Perspective**
Paul Fountain, Senior Consultant: Biosolids, Thames Water

- This talk will not look at one type of incentive over another – but will look at the bigger picture to see what context incentives fit into.
- While incentives matter, they need to be understood in relation to the whole of the cost of treatment – how significant a component are they?
- Do incentives fundamentally determine the treatment route? Do they change how we might otherwise treat? Are there other cost effective treatments processes which might be adopted if incentives were not present?
- Digestion – does the UK water sector only digest because of incentives? Or is it something we would do anyway and are incentives there to help encourage effective and efficient use of renewable resources once they have been made available by digestion."

- 12.30 13.00 **The economics of subsidy-free small-scale AD and power-to-gas**
Michael Chesshire, Director, Lutra Ltd
- This analysis will cover capital costs, operating costs, income and greenhouse gas mitigation. Sensitivity analysis will cover reduced capital costs, reduced operating costs and the effect of energy prices.
 - The presentation will also include the biomethanation of hydrogen and carbon dioxide to form methane, both “in-situ” and “ex-situ”. Power-to-gas has the potential for using the national gas grid as a means of storing intermittent renewable electricity and sequestering carbon dioxide.
- 13.00 – 13.45 Networking lunch
- 13.45 – 14.15 **Anaerobic in place of Aerobic; Viewing Trade Effluent as a Revenue Source**
Simon Christian, AD Domain Leader, SUEZ Water Technologies and Solutions
- 14.15 – 14.30 Panel Discussion
- Session 3: Optimisation and Innovation**
- 14.30 – 15.00 **Desai-Zimmerman Anaerobic Digestion Cycle – Sustainably Intensified Anaerobic Digestion with Novel Biogas Sweetening**
Pratik Desai, Technical Director, Perlemax Ltd,
- AD reactor design problems - mixing, pre-treatment, and operational
 - Overview of the DZAD cycle and performance details.
 - Techno-Economic Assessment with returns based on Methane and Fertiliser and other possibilities
 - Follow up work – Riverside, California and US Department of Energy (\$2Mn Project) and other follow on project
- 15.00 – 15.30 **Optimising the AD Process for Profit: A UK Case Study**
Mary Keenan, Business Development Manager, EKO GEA
- Overview of a newly-commissioned AD plant at Hendwr Farm near Corwen, Wales that demonstrates potential to operate AD plants profitably, without an incentives component.
 - Two novel technologies are being implemented:
 - a biological additive that significantly increases both biogas quality and quantity,
 - mechanical feedstock pre-treatment process that reduces feedstock particle size providing demonstrable efficiency increases.
- 15.30 – 15.45 Break
- 15.45 – 16.15 **Boosting Biogas generation by 20-30% using Biocatalytic Augmentation of Anaerobic Digesters**
Dr. Malcolm Fabiyi, COO and VP Operation, Drylet
- A bio-catalytic method for boosting biogas generation up to 20-30% in an existing digester process.
 - Bench and full-scale applications for enhancing biosolids reduction, mitigating foaming and enhancing biogas generation in animal waste and sewage digestion systems.
 - Full scale results from a 5-lagoon rendering facility treating about 250,000 gallons per day (1 MLD) of waste, and a 50 MGD (200 MLD) wastewater facility.

16.15 – 16.45

Anaerobic Digestion – A research and development perspective

Dr David Vaughan, Former AD Lead at Biorenewables Development Centre (BDC)

Anaerobic digestion (AD) is an important component in achieving renewable energy targets as well as being part of an integrated waste management system. Research establishments and industry working together could help AD to function in a zero tariff environment. This presentation will focus on:

- **Developing feedstocks**
With changes in legislation and competition for materials, getting more out of current feedstocks as well as sourcing new materials is becoming more important.
- **Can analysis and manipulation of the AD microbiology improve the system?**
Anaerobic digestion is, fundamentally, a biological process, a greater understanding of this area may lead to benefits for the AD industry.
- **Biorefining - the role of AD as a support to higher value products.**
Using anaerobic digestion as a support for higher value products rather than being the primary technology can create another useful avenue for anaerobic digestion.

16.45 – 17.00

Panel Discussion

17.00

Close

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