

SCOTTISH LOW CARBON INVESTMENT CONFERENCE

ENERGY FROM WASTE

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AGENDA

- > **Chairman's introduction**
 - > **Panel discussion**
 - > **Audience participation and Q&A**
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PANEL GUESTS

- **Myles Kitcher – Peel Environmental**
 - **Colin Anderson – Banks Developments**
 - **Graeme McDonald – William Tracey Group**
 - **Adam Baddeley – Eunomia Research & Consulting**
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CHAIRMAN'S INTRO

- Energy from Waste (EfW) – what is it?
 - EfW and the EU waste hierarchy
 - EfW and the Zero Waste legislation
 - EfW and the Renewable Heat Incentive
 - EfW, Biowastes and Sustainability
 - End of Waste
 - Strategy and Investment
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ENERGY FROM WASTE – WHAT IS IT?

- › Multiple waste streams
 - › Direct combustion with energy recovery
 - › Anaerobic digestion with biogas
 - › Biomethane
 - › Refuse derived fuel from MBT
 - › Landfill gas
 - › Heat / electricity / transport
 - › End of waste – zero waste
 - › Advanced biofuels
 - › Landfill diversion and waste recovery
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EfW AND THE WASTE HIERARCHY

- › EfW below recycling
 - › EU definition of 'recycling' – no fuel
 - › Even end of waste fuels disallowed
 - › Application of the hierarchy:
 - planning
 - waste duty of care
 - Zero Waste Regulations
 - › Derogations from Hierarchy:
 - best overall environmental outcome
 - technical feasibility
 - economic viability
 - lifecycle analysis
 - food, garden, (some) wood wastes
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EfW AND THE ZERO WASTE REGULATIONS

- Restriction on waste inputs to EfW
 - “Residual waste” – post recyclable extraction
 - “Other suitable single stream waste types” – case by case
 - Minimum recovery rate for recyclate?
 - Level of pre-treatment?
 - Transitional pre-treatment
 - Investment uncertainty
 - Disparity between England and Scotland
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EfW AND THE RENEWABLE HEAT INCENTIVE

- Draft RHI Regulations
 - Potential barriers to commercial exploitation of heat from waste:
 - restriction to solid biomass
 - exclusion of commercial and industrial
 - exclusion of mixed waste streams
 - uncertain definition of municipal waste
 - Zero Waste Scotland restrictions and disparity
 - additional sampling, analysis and pre-treatment costs
 - adverse effects on investment and funding
 - Urgent need for clarity on eligible waste feedstocks
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BIOMASS, WASTE AND SUSTAINABILITY

- Renewable Energy Directive – bioliquids + biofuels
 - Relevant classifications:
 - waste biomass
 - virgin biomass
 - end of waste biomass
 - EC and UK Consultations on solid biomass sustainability criteria
 - Uncertainty on legal shape of sustainability criteria for solid biomass
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END OF WASTE FUELS

- Legal definition of waste – elephant in room?
 - End of waste = zero waste
 - Challenging legal criteria:
 - high level of processing
 - complete recovery
 - product specifications
 - market research and applications
 - Multi-sectoral application
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STRATEGY AND INVESTMENT

- **Security of feedstocks**
 - **Perceived technology risk**
 - **Heat infrastructure delivery**
 - **Market uncertainty and lack of clarity:**
 - **precise application of Zero Waste restriction**
 - **future of RO, bandings, grandfathering, etc.**
 - **precise application of renewable heat incentive**
 - **clarity on sustainability criteria and legal effects**
 - **role of Green Investment Bank**
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PANEL DISCUSSION

