HOW CAN WE GET FOOD WASTE POLICY RIGHT?

UK AD & BIOGAS 2014 PREVIEW

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Zero Waste Scotland has invested significantly in Scottish food waste recycling infrastructure in recent years, with AD capacity rising from 28,000 tpa in 2010 to an impressive 250,000 tpa, equivalent to 75% of total food waste capacity. Parallel to this has been a growing awareness of the value of food waste, with food waste recycling no longer seen as a niche concept but a widely accepted and habitual practice. We have helped to drive this change by investing £20m with councils to support the introduction and roll-out of food waste collections. As a result, over 1m Scottish households now have access to a food waste collection service, and this number is set to rise.

But it’s not just householders who are recycling their food waste; businesses are also seeing the benefit. The new Waste (Scotland) Regulations, which came into play at the beginning of 2014, require all businesses to separate key materials for recycling, including food waste for many businesses. The response we’ve had so far has been encouraging — and in fact we’re increasingly seeing businesses realise the cost savings to be made by becoming more resource efficient. Moreover, it’s helped to shine a spotlight on the amount of food being wasted by businesses, prompting them to waste less in the first place.

The increase in the volume of food waste to be processed as a result of this new legislation presents the AD industry with a real opportunity, and the significant increase in AD capacity over the last four years means that it’s already in a strong position to benefit from this. But the AD industry in Scotland now finds itself at a real turning point. While it’s seen significant support over the last few years — helping to develop infrastructure, provide feedstocks, comply with PAS 110 and build an evidence base around its products — a remaining key challenge is the development of long term sustainable markets for digestate products. Collaboration across the industry will be needed to generate confidence amongst users by offering quality, consistent products to the market.

I’ve no doubt that the AD industry is well placed to lead the way in Scotland’s ambition to become a circular economy, where materials are reused and their true value realised. Instrumental to this is a need to think innovatively and seek to find new uses for digestate, increasing its value and ensuring that, as energy incentives reduce, the industry is able to prosper into the future.

www.zerowastescotland.org.uk

See our feature on p8, ‘Extracting food waste for AD’
WHY GOVERNMENT MUST FOLLOW INDUSTRY’S LEAD ON FOOD WASTE TREATMENT

By Charlotte Morton, ADBA’s Chief Executive

Extracting unavoidable food waste from households and businesses for treatment through anaerobic digestion (AD) is absolutely pivotal for the future of our industry. Getting food waste policy right will go a long way to realising the sector's huge potential.

Earlier this year our AD & Hospitality Conference, which was attended by leading companies in the sector such as Nandos, KFC, E1or, Hilton and McDonald’s, illustrated the significant commitment that companies are willing to make to integrate AD into their operations. There was a clear consensus from attendees that a greater steer from government to support the introduction of separate food waste collections is intrinsic to making real progress.

Currently only 7% of food waste is treated through AD in the UK, while 35% is still landfilled. This clearly has to change – where food cannot be reused or redistributed, sending the resource to AD makes sense. AD recycles the valuable nutrients and organic matter back to land, while generating a flexible, ultra low carbon, renewable gas which will ultimately boost UK energy security.

The most effective way in which government can facilitate councils and businesses to send their food waste to AD is to encourage separate food waste collections. England currently lags far behind the devolved administrations in this respect – only 26% of English councils provide separate food waste collections, compared to 95% in Wales, while Scotland has introduced legislation to compel local authorities and food waste companies to separate their food waste for collection.

It’s far from all bad news though – the UK is one of the European leaders on food waste AD projects, with 72 already in operation and plenty more in the pipeline. Emerald Biogas opened the first food waste plant in the North East of England in January, processing 50,000 tonnes of food waste from across the region. We are also delighted to see the introduction of innovative collection schemes, such as the “Direct to AD” service pioneered by Malaby Biogas, which sees the AD operator using its own collection scheme to gather food waste from local businesses.

While industry is doing its best to move forward, government must step up its game and take a more proactive approach to driving food waste up the waste hierarchy. Defra and DCLG must closely explore the lessons from Scotland’s experience of rolling out food waste collections across the country, and seriously consider whether a similar phased approach can be taken in England – supporting the growth of the AD industry and the circular economy.

FIT ANNOUNCEMENT BRINGS DISAPPOINTMENT FOR SMALL SCALE AD

In a very disappointing announcement, government confirmed in February that it would not be consulting on action to support small scale AD plants (below 500 kW) under the Feed-in Tariff (FIT). This would have mitigated the impact of 20% FIT degression from April 2014 and is contrary to what was promised by Energy Minister Greg Barker MP in November 2013.

In a statement sent to ADBA and REA, DECC indicated that the reason for this decision was the ‘unexpected number of pre-accreditation applications...and the resulting impact on cost controls’. Data released by Ofgem showed that, as of December 2013, there were 130 applications for preliminary accreditation and 23 for full accreditation, totalling over 150 MW. Unless there are substantial application withdrawals, this volume will inevitably trigger degressions through to April 2015.

Simply restoring the tariff rate would therefore have failed to contain the ongoing degression problem. DECC did however outline that it was open to considering changes to support for small scale AD projects in the scheme wide 2015 FIT review; we will continue to work closely with government on its work in this process, as well as other action to support the small scale AD sector.

More information on the degression mechanism, including latest deployment figures and likely future tariff rates, is available to ADBA members via the Members’ Area at www.adbiogas.co.uk

See p24 for FIT degression figures

BEST PRACTICE DEVELOPMENT CONTINUES

We have held initial meetings with organisations including the Environment Agency, Animal Health and WRAP to discuss the development of industry-led best practice. Further details on the development of the scheme are likely to be finalised over the coming months, with the first steering group meeting taking place shortly.

We believe that this is necessary in order to reduce regulatory and insurance costs, and ensure good standards of design, build and operation as the industry continues to grow.
RHI REVIEW – BIOMETHANE INJECTION COST DATA REQUIRED

DECC has announced a review of the RHI tariff for biomethane injection. Taking place later this summer, the review will consider whether new information about capital and operational costs would support restructuring the scheme. We believe this consultation will be important to ensure that the RHI for gas grid injection remains available at a level that supports plants at all scales over the long term.

Large expenditure under the scheme could risk severe tariff degressions, threatening the viability of future projects. We are therefore working closely with DECC to provide comprehensive information on project costs and possible economies of scale. Data collected so far suggests that the cost base for larger biomethane plants (eg above 1,000m³/hr) could mean that a lower incentive is required than for smaller plants in the future, supporting a banded tariff approach. DECC may also be keen to look at whether plants with existing assets, such as digestion tanks and electricity connections, could be incentivised at a lower level.

As a result, DECC may consider introducing a lower tariff for biomethane injected over a certain threshold. However, we would be against the introduction of ‘hard’ bands, such as exist under the FIT, for fear of creating perverse incentives to artificially restrict project sizes. We would prefer to see ‘soft’ bands, allowing individual projects to receive a higher tariff up to a certain threshold, and a lower tariff for any biomethane injected above that level.

GET INVOLVED

To help achieve the best outcome for the industry, we need to present DECC with sufficient cost data. We are therefore asking members to provide us with information on any aspect of the biomethane injection supply chain – including whether there are economies of scale which would justify a restructuring of the tariff – such as digestion equipment, civils costs, electrical and mechanical engineering costs, and biomethane upgrading equipment.

We would also welcome your feedback on the following points, in relation to DECC’s intention to introduce a tariff guarantee for larger (over 1 MW) RHI projects from spring 2015:

• Will gas to grid at all scales need tariff certainty, not just larger projects?
• Assuming that the tariff guarantee came around financial close, how long will projects need to reach commissioning?
• At what point can we be reasonably certain that projects are going ahead? If this point is financial close, can offers of finance be dependent on pre-accrediting shortly afterwards at a particular tariff level?

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DFT BIOMETHANE RECOMMENDATIONS WELCOMED BY INDUSTRY

The Department for Transport (DfT) has published industry recommendations to support the biomethane and gas vehicle market, following the work we were involved in as part of DfT’s Low Emission HGV Task working group. Included within the recommendations are:

- Reviewing the case for allowing recognition of the certified use of biomethane as a transport fuel in carbon reporting;
- Reviewing the range of fiscal incentives for methane, biomethane and other fuel options, including support under the Renewable Transport Fuels Obligation (RTFO);
- Supporting discussion with DECC, Defra and the Department for Communities and Local Government (DCLG) on waste policy, with a view to removing potential barriers to biomethane supply capacity for freight transport use;
- Supporting the establishment of a strategic network of gas refuelling infrastructure, taking account of potential demand from freight operators and other users, as well as the mix of LNG and CNG vehicles in operation.

Alongside our Transport Working Group, we have consistently called for an increase in support under the RTFO, recognition of biomethane certificates in company carbon reporting and more joined up support for separate food waste collections. As a result, we strongly welcome this publication and urge DfT to take forward these recommendations.

GET INVOLVED

Our Transport Working Group will meet on 10 April to discuss how industry can work with government to take these recommendations forward, as well as considering the other key developments in the sector. To attend the meeting or find out more, go to p31 or contact jordan.marshall@adbiogas.co.uk

ADBA MEMBERS INVITED TO FIRST REGULATOR DAY

Tackling the most important regulatory issues facing the AD industry today, our inaugural Regulator Day will take place at ADBA member Walker Morris’ offices in Leeds on 23 May 2014. This free to attend, member only event will give attendees the opportunity to hear the latest changes in regulation, best practice and compliance from the Environment Agency (EA), Health and Safety Executive (HSE) and Defra’s Animal Health and Veterinary Laboratories Agency (AHVLA). Experts from the three regulators will also be available to answer members’ questions.

High on the agenda will be the requirements that operators must meet under the Animal by-Products Regulations (ABPR), including a recent EU regulation making liquid digestate subject to ABPR controls. Attendees will also be keen to hear from the EA on developments with the European BREF process, which could see major changes to permitting for AD plants. The EA will also share its view on the performance of the AD sector over the last year, providing advice on how operators can best achieve compliance with their permitting requirements. In addition, the HSE will provide information on key regulations for the design and construction of plants, and how to avoid incidents.

ADBA members can register for this free event at www.adbiogas.co.uk/events/

ADBA TELLS EUROPE THAT FIT SUPPORT IS VITAL

Our response to the European Commission consultation on energy and environment state aid made a strong case that the Feed-in Tariff (FIT) scheme should continue to be available to projects up to at least 5 MW. This included an early stage proposal for a 1 MW cap on direct support schemes, such as FIT, and stated our view that it was not appropriate for projects between 1-5 MW to operate in a market-based support scheme in the current investment climate. Furthermore, we argued that projects below 5 MW are less able to absorb the risks of variability in wholesale electricity prices, which is balanced by the stability of FIT. We have also contributed evidence to assist with DECC’s response to this consultation, whose policy remains to support FIT projects up to at least 5 MW, and possibly extend this to 10 MW for community projects.

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While the UK’s anaerobic digestion (AD) industry is growing at an impressive rate, securing feedstock for food waste plants can still prove challenging. The issue is not a lack of food waste – even with the avoidable portion falling, WRAP estimates that total UK food and drink waste is around 15m tpa – but how to increase the volume being sent to AD from the current level of just 7%.

From an environmental point of view, sending unavoidable food waste to AD is the right thing to do. Food waste left on landfill sites emits harmful emissions and loses the value of much of this resource, whereas processing it through AD extracts the energy it contains in the form of an ultra low carbon renewable gas, and recycles the nutrients into a valuable biofertiliser, helping to support the UK’s energy and food security. But AD also makes sense financially: separating food waste for collection and seeing what’s being thrown away has been shown to reduce food waste (and therefore costs) in the first place; removing food waste from the waste stream produces a cleaner, more valuable, volume of recyclates; and it’s a cheaper waste treatment option, with AD gate fees averaging £41 per tonne, almost half the cost of landfill tax.

With such compelling evidence in favour of AD, momentum is building for a ban on sending food waste to landfill and for separate food waste collections in England to join supportive policy in Wales and Scotland.

But is legislation the only answer?

Scotland has taken the lead on food waste recycling in the UK. Businesses in non-rural areas producing over 50kg of food waste per week must present it for separate collection (2016 for those producing over 5kg), and from 2016 local authorities are required to offer a food waste recycling service to households in non-rural areas. In Scotland, these new statutory requirements are driving a significant increase in food waste collections, resulting in an increase in the amount of food waste being recycled. By 2016, the Scottish Government is expecting 86,000 tpa of food waste to be recycled (mainly at AD plants), up from approximately 8,000 tpa in 2012.

It’s too early to assess the financial impact of this new legislation on food businesses, but Janet Cox, Head of Health and Safety for KFC UKI, attests to the environmental benefits: “Even though we already had in place strict processes to minimise our food waste, since January 2014 we’ve recycled 20,000kg of food from our Scottish stores, making CO2 savings of 9,000 tonnes. Rolling out our Scottish model across all UK operations, as is our aim, would save 2.5m tonnes of carbon each year.”

Dean Pearce, Regional Commercial Manager (South East) for ReFood – whose Vision 2020 project is campaigning for a ban on sending food waste to landfill in England – believes that English waste policy should be following Scotland’s example: “Legislation is crucial for the AD sector to be able to access all the food waste that the UK generates. The majority of food waste is produced in relatively small quantities, which makes it difficult to encourage segregation. Mandatory segregation and collection of food waste is therefore vital, with a ban on sending it to landfill the ultimate goal.”

Alternatives to landfill ban

However, not everyone agrees that such legislative action is necessary. “A strict landfill ban would be a blunt instrument. Before calling for new legislation in England, it would be interesting to see what can be done with the laws already in place...”

Eunomia’s Peter Jones (speaking at ADBA’s recent AD & Hospitality Conference) believes more should be done with the laws already in place.
Extracting food waste

in place,” suggests Peter Jones, Senior Consultant for Eunomia Research & Consulting. “Could a council or business be found in breach of its obligation to apply the waste hierarchy if it hasn’t implemented separate food waste collections, for example?” Jakob Rindegren, Recycling Policy Adviser for the Environmental Services Association (ESA), concurs: “Government could clarify whether AD can be classified as recycling and not just recovery, in line with its guidance on the waste hierarchy. But ultimately, it’s about all stakeholders working together, rather than relying solely on government.”

Unifying England’s local authorities

As far as helping to extract more food waste for AD from local authorities (LAs) is concerned, it’s clear that government could be doing more to help. “The government largely leaves LAs to their own devices where waste is concerned,” says Andrew Needham, Commercial Director for Biogen. “As such, there is a wide variety in the approach to food waste collection; it would benefit from a standard waste strategy.” John Woodruff, Head of Waste Services at the London Borough of Bromley, agrees that joined up thinking would help increase food waste collections: “To help break down the perceived barriers to food waste collection faced by some LAs, one idea would be to create a forum where they can discuss their issues with other authorities that have already implemented such a system, enabling them to learn from one another’s experiences.”

In Wales, this has been taken a step further; Welsh local authorities have formed collaborative procurement hubs to jointly secure food waste treatment capacity. “The decision by the Welsh Government to provide support for AD was aligned to the additional funding provided by the Welsh Government for separate food waste collections by all 22 LAs,” explains Dr Andy Rees, Head of Waste Strategy for the Welsh Government. “In Wales, 96% of households are now provided with a separate food waste collection service.” Andy recommends a twin tracked approach, developing collection systems and the relevant infrastructure at the same time. “The increased collaboration resulting from the procurement partnerships has without doubt benefited the wider food waste recycling initiative in Wales. The hubs have created economies of scale which have made facilities both affordable and deliverable,” he adds.

John Woodruff believes a similar scheme could work well in England: “Hubs are a great idea. It makes sense to combine the feedstock from several participating LAs, and then commission a plant from an established AD operator.” Biogen has designed, built and now operates three LA hub plants in Wales and Andrew Needham is cautiously optimistic of this model being as successful in England: “As there are significantly more LAs in England than in Wales, the hub model would be more complex and difficult to manage. But LAs working together to pool ideas and resources is undoubtedly a good thing.”

Collection density

Another AD operator successfully treating local authority food waste is Tamar Energy. Mat Stewart, Head of Feedstock, cites a plant’s location as a major factor in attracting food waste contracts: “The location of new AD plants is of critical importance: waste haulers earn money while picking up bins, not while driving to a disposal point. The chances of economical transport of any waste diminish if it has to travel more than 30 miles from the point of collection. There is a clear need in the UK for more AD plants in strategic locations, to drive down collection costs and ensure the gate fee savings to be made from sending food waste to AD can be passed on to the waste producer.”

Keeping collection costs down is critical to attracting more food waste into the AD sector, but there are other factors besides the location of AD plants to take into consideration. “Food waste collection can only become more cost effective and regular if there are enough customers in an area to serve,” explains Richard Allsopp, Business Development Manager for Olleco. “Currently, there simply isn’t enough route density for collectors to offer multiple visits per day.”

Continued>>

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As Richard states, encouraging more businesses to recycle their food waste – thereby increasing the number of collections on a route – would result in lower collection costs for the customer and enable them to really feel the benefit of AD’s lower gate fees. Getting this message across to the hospitality sector is particularly important, as despite generating 60,000 tonnes of food waste each year, it has been slow to implement separate food waste collections.

Charging by weight, rather than volume, may provide the answer, suggests Stuart Hayward-Higham, Technical Development Director of SITA UK. “As AD generally has a lower treatment cost than residual waste, mandatory weighing of bulky waste collections would help to direct heavy waste, like food, towards the lower cost solution. Not all collections can be weighed (inner city cage vehicles, for instance) but if this legislation was introduced in 2018/19, for example, it would give waste collectors time to get the equipment and systems in place. This driver would provide the imperative for innovation in collections to help reduce costs and make separate food waste collections more efficient and cost effective.”

Collection innovations

In the meantime, the AD industry is developing its own solutions to collection issues. Local Generation is one of a number of AD operators thinking outside the box, as Commercial Director Allan Spence explains: “We are working successfully with a number of collectors to provide a cheaper, reliable and environmentally sound disposal route for hospitality waste. While we don’t intend to set up our own collection rounds, we are open to collectors basing some of their vehicles at our premises to help reduce logistics costs. Even for a nationally operating collector with its own disposal facilities, the use of a third party, local AD plant makes economic sense as the costs of transport continue to rise.”

Caroline Wheatley-Hubbard, owner of The Ginger Piggery farm shop. “The joy of the Direct to AD system is that it is local — we can speak to Thomas directly about any issues that may arise. Communication is key, and keeping the service personal ensures it is successful for us.”

Dispelling the AD myths

But often it is simply a fear of the unknown that prevents a food business from sending its waste to AD. “The hospitality sector envisages problems with respect to space requirements for separate collections. However, multi-body receptacles and other innovative ideas have seen those that have dipped their foot in the water pleasantly surprised,” states Kevin Clarke, Business Development Manager (Waste and Energy) for Imtech. “In addition, some businesses do not appreciate the benefits to be gained by better managing their waste, from either a financial or CSR agenda viewpoint.” Fortunately, initiatives such as ADBA’s recent AD & Hospitality Conference, and WRAP’s Hospitality and Food Service Agreement, are helping to bridge the gap between the two sectors.

Thomas Minter, Director of Malaby Biogas, is running a successful Direct to AD service, collecting small volumes of food waste from local businesses including restaurants, pubs and schools, for treatment at the Bore Hill Farm biodigester in Warminster, Wiltshire. This bespoke, small scale, local solution is proving popular with customers such as

Food businesses now expect AD plants to accept a certain amount of packaged food waste

Food waste buckets outside The Ginger Piggery, for collection by Malaby Biogas’s Direct to AD service

For KFC, as for many other food businesses, the AD experience has been a positive one. “So far, recycling our food has been a straightforward process,” enthuses Janet Cox. “We educated our staff with posters, colour-coded stickers and matching recycling bins and followed this up with site visits. Catering staff tend to be young and see recycling as the norm.” However, there was one issue that had to be overcome before the switch to AD could be made, explains Janet: “Finding an AD plant that could handle our packaged food was a prime concern for us and is one of the stumbling blocks preventing other food businesses from sending their food waste to AD.” Biogen’s Andrew Needham feels that this is a request the AD industry cannot afford to ignore: “The onus is on the AD industry to come up with solutions to deal with the feedstock coming in, and that includes packaged waste. For the industry to reach its potential, we must give the customer what they want. Of course, it works both ways — the customer needs to be educated to not dispose of general waste such as plates and cutlery.
Depackaging solutions

And with a range of screening, degritting and depackaging equipment available, there can be no reason why today’s operators shouldn’t be able to do just that. Tony Clutten is Process Sales Manager for Huber, which specialises in contaminant removal. Tony believes that any developer building a plant without degritting or depackaging equipment is taking an unnecessary risk: “It’s not always convenient or cost effective for a customer to degrit or depackage their waste before sending it to AD, so it’s a service that operators should be ready to offer, at the right price. And installing degritting/depackaging equipment at the development stage, rather than retro-fitting, will save a developer money in the long run. If a digester is half filled with contaminants, it won’t operate efficiently – equipment will get damaged, gas yields will be minimised and ultimately, so will the developer’s profit margin.” Luke Shepherd, Director of Haigh, agrees that separation technology is essential to a plant’s success: “Technological process improvements that a company like Haigh can bring are the safety net, lowering the risks of setting up an AD plant, and tipping the balance between the not insignificant capital investments of a project being justified.”

The answer to the problem of how to extract more food waste for AD is therefore multi-layered. Alongside regulatory measures, such as implementing a landfill ban, changing economic drivers or requiring stricter adherence to the waste hierarchy, the industry also needs a wider network of AD plants with depackaging facilities in more strategic locations; greater collaboration between local authorities; more innovative waste collections to encourage greater route density, thereby lowering collection costs; and continued communication between the AD industry, waste collectors and waste producers. Until such time as waste policy in England catches up with that of Scotland and Wales, it’s up to the AD industry to keep engaging with key customer sectors and continue to improve its services – and take control of its own future.
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GTS Nitrogen Services Limited

GTS Maintenance Ltd is a private limited engineering and site installation company with a trading base in Alfreton, Derbyshire. GTS specialises in the design, engineering, fabrication, manufacture and site installations of gas containments including digesters (fixed and floating roof), gas holders, gas pipe work, heat exchangers, containerised heat exchanger boiler package plants, sludge holding tanks and associated structural steelwork.

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NEWS FROM THE REGIONS

Zero Waste Scotland to become independent

Zero Waste Scotland has announced that from June 2014 it will no longer be a subsidiary company of WRAP, but an independent organisation operating under its own governance structure. In order to support the next stages of its work, Zero Waste Scotland is looking to integrate more closely with the wider Scottish policy landscape, Scottish delivery partners and the Scottish business and research communities. The decision to become independent was made following close consultation with WRAP, after examining a number of options for realigning the governance and management of Zero Waste Scotland to better achieve these outcomes. In a letter to stakeholders, George Burgess, Head of Environmental Quality, confirmed that Zero Waste Scotland’s current delivery plan will not be affected by this change.

www.zerowastescotland.org.uk
www.wrap.org.uk
See p3 for foreword by Louise McGregor, of Zero Waste Scotland

Welsh Government pledges on-farm AD support

The Welsh Government has pledged to offer more focused support to on-farm AD projects. A government paper on energy and planning policy states: “Renewable energy opportunities, including the potential for anaerobic digestion, are being considered as part of the development of the next Rural Development Plan. Work is also being undertaken on the development of a joined-up support and advisory service.”

This follows similar welcome remarks from Defra last year; the department’s response to the Ecosystem Markets Task Force saw it commit to boosting the on-farm AD sector and was followed by the launch of the WRAP On-Farm AD Fund in October.

There are currently five farm-based AD plants in Wales, while strong drivers exist for the treatment of food waste by AD through the Welsh Government’s food waste treatment programme, including six collaborative procurement hubs.

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For free, independent and expert AD advice on starting an on-farm AD project, contact our Farmers’ Consultancy Service:

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AD opportunity beckons in Orkney

The Scottish Government is looking for AD developers interested in building an AD plant near the town of Kirkwall on the Orkney mainland. Following a feasibility study conducted by Zero Waste Scotland last year looking at potential feedstock, the focus is now on gauging market interest.

For more info contact: E anna.cummins@zerowastescotland.org.uk
http://bit.ly/1o8aGWC

Scottish Recycling Fund set to boost onsite AD

The Scottish Government has launched a £3.8m fund to help businesses develop green infrastructure proposals, including industrial food and drink processing waste. In what is being seen as good news for the AD industry, an example given of a project eligible for the Scottish Recycling Fund is ‘installing an anaerobic digestion facility at a dairy to process the effluent and generate renewable energy’. Loans ranging from £50,000 to £1.9m, and given on commercial terms, will be repayable over a three to five year period, primarily for capital investment but can also include working capital.

To find out more go to
www.zerowastescotland.org.uk/content/scottish-recycling-fund

Research funding success for Welsh AD Centre

The Welsh Government’s A4B project has awarded £889,000 to The Wales Centre of Excellence for Anaerobic Digestion (the AD Centre), to deliver a Knowledge Transfer Centre in Advanced Anaerobic Processes and Biogas Systems. Supporting the AD industry since 2008 and based at the University of South Wales, the AD Centre will gain new analytical equipment and laboratory-based digestion systems. This will increase its capacity to collaborate with industry to develop innovative waste management and renewable energy projects based around the production and use of biogas and digestate. “The additional resources that we can now put in place will be used to further help companies address some complex technical challenges, and to develop new processes and products that, at the moment, do not exist,” says Dr Sandra Esteves, Centre Director. “These are exciting developments that will create commercial opportunities, economic benefits, and maximise the environmental credentials for AD and biogas systems.”

www.southwales.ac.uk
The London Waste and Recycling Board has awarded £1.2m across 17 boroughs for the provision of new or improved recycling facilities. Launched last September, the Driving up Performance Fund has awarded grants ranging from £11,700 to £200,000 to 13 projects, and is set to benefit over 1m London households. It is estimated that 60,000 tonnes of waste could be diverted from landfill and incineration during the scheme’s first four years.

Successful projects include the introduction of food waste collection services to residents living on the Lesney Farm estate in Bexley (meaning that 100% of Bexley flat residents now have a comprehensive recycling service), a mobile recycling centre in Westminster and improvements to household waste and recycling centres across the capital. Schemes are expected to be rolled out by March 2015.

www.lwrb.gov.uk

Operators of generating stations with a declared net capacity of >50 kW, using solid biomass and/or biogas, will be required to report against sustainability criteria as part of the Renewables Obligation (Amendment) Order 2014. Stations with a total installed capacity of >1 MW will also be required to provide an annual independent audit report to verify the information submitted to Ofgem.

Ofgem has amended its administrative processes to account for this change, with significant updates to fuel measurement and sampling (FMS) procedures. Operators of AD generating stations will need to assess whether the improved sustainability reporting criteria apply to them; if so, these stations will need to revise their FMS procedures. Operators of generating stations with a declared net capacity of >50 kW, using non-waste feedstock (other than animal manure or slurry) for the production of biogas, will be required to provide sustainability information on a consignment basis.

For further information go to http://bit.ly/1iUhdo8
E fuellingandsustainability@ofgem.gov.uk

AD is one of multiple strategies for effectively reducing the amount of food waste going to landfill, according to Dan Rogerson, Minister for Resource Management at Defra. Speaking at a recent conference marking a year of the Fresher for Longer initiative, Mr Rogerson said: “Since we laid out our strategy for AD in our 2011 action plan, the number of plants has doubled. We want to move food waste away from landfill, where 40% of it is still disposed of now.”

An extension of WRAP’s Love Food Hate Waste campaign, other partners of the Fresher for Longer campaign include: the Industry Council for Research, Packaging and the Environment; the Food & Drink Federation, and the British Retail Consortium. According to WRAP, UK domestic food waste has fallen by 21%, or 1.1m tonnes, since 2007. The organisation has ambitions to halve the remaining total by 2025, but warns that the rate of reduction has been falling.
Technology focus: Gas upgrading

GAS UPGRADING TECHNOLOGY REACHES THE NEXT LEVEL

“Biogas Power Ltd is developing a gas to grid project near Coupar Angus in Scotland — the first such project north of the border — which is due to begin injecting into the gas grid this November. The plant will process 36,000 tpa of agricultural waste and purpose grown crops, producing 3,000,000m³ of biomethane each year for injection into the grid. Before this can take place, however, the biogas must first be upgraded; that is, the carbon dioxide must be separated from the methane. Acting as project manager representing the asset owners, we have selected water wash (also known as water scrubbing) upgrading equipment from Chesterfield BioGas, but a wide variety of other technologies are in operation commercially today, including amine scrubbers, pressure swing adsorption (PSA) units, organic scrubbers and membrane units.

For mid-scale applications, the most common options listed above are all viable. The scrubbing technologies all perform well and have similar costs of investment and operation. The simplicity and reliability of the water scrubber has made this the preferred choice in many applications throughout Europe, but the high purity and very low methane slip from membrane and amine scrubbers are also important points to bear in mind. However, the investment cost for these is slightly higher. In larger applications, eg above 900m³ biomethane, the capital and operating costs often favour water wash technologies.”

Questions to consider before selecting any upgrading technology include:
1. Are there any planning considerations that would exclude vertical designs? Water wash and amine scrubbers require tall towers.
2. What are the proposed injection volumes into the grid? Water wash favours high volumes, whereas a smaller volume (<250m³) might be better suited to amine scrubbing or membranes. And at between 300-500m³, all technologies are very similar in capital cost.
3. What is the overall energy demand of the process? Managing and minimising on-site parasitic electrical load is crucial — amine scrubbing can be effective here, but has significant heat consumption.
4. What is the expected methane slip (the volume of methane lost in the upgrading process)? The lower the methane slip, the greater the profit margin.
5. Will the technology remove inert gases to minimise the volume of propane required to meet the grid calorific value (CV) requirements? Propane costs can eat into profit margins.
6. Is the feedstock mix likely to produce high volumes of hydrogen sulphide (H₂S)? Water wash is more resistant to higher H₂S levels than other technologies, which may require expensive pre-treatment filtration.
7. Don’t forget to compare both the capex and opex costs. Lifetime equipment replacement and guarantees on the process (eg membrane and active carbon filter replacement) are key considerations, as these are high cost components and consumables.

ADBA members central to UK’s booming biomethane sector
The Coupar Angus gas to grid project will be the first facility of its kind in Scotland. Project managers Biogas Power Ltd have appointed MT-Energie UK as the main contractor, responsible for planning, engineering, construction and commissioning, while Scotia Gas Networks (SGN) will oversee connection to the local gas grid. “Greening the gas, by connecting distributed sources of renewable gas to our network as we are in Coupar Angus, is at the heart of our long term vision of an enduring sustainable...”
gas network," states Robert Wilby, Head of Business Development for SGN.

This is welcome news for the UK’s biomethane sector. And according to Stephen McCulloch, Chair of ADBA’s Biomethane to Grid Working Group and Managing Director of Chesterfield BioGas (CBG), which is supplying the project with water scrubbing upgrading equipment, gas to grid is set to really take off in 2014: “With the RHI now in place, it has become clear that producing gas for grid injection is a commercially attractive option. It has taken some months, following the resolution of the regulations covering biomethane specifications such as oxygen content, to show in orders, but we now have a significant pipeline of enquiries for a diverse range of projects.”

Alongside the Coupar Angus project, which will use a Matai unit from the Greenlane upgrading range, CBG has recently announced two other orders for upgraders; a Totara unit for ReFood’s Widnes site, and another Totara for the FLI Energy project in Beccles, Suffolk. In total, six orders for upgrading units have been placed with CBG in recent months but Stephen warns no two biomethane projects will be the same: “Feedstock, site location and other variables such as proximity to the grid, planning and easements, mean that a certain amount of innovation is required for every project. In particular, anticipating the feedstock mix is a crucial consideration. I would urge developers to consider the enhanced commercial benefits to be gained from gas to grid before beginning any AD project, and determine if they will have enough feedstock for a sufficient and continuous supply of gas. Importing more feedstock is not always the answer – different blends produce small volumes of different constituents in the raw biogas, and may require extra treatment before upgrading in order to achieve the properties necessary for biomethane. For the ReFood project, we provided a package of special equipment to handle siloxanes, volatile organic compounds (VOCs) and H2S, all of which are more prevalent in food waste and need treating before the upgrading process can take place,” adds Stephen. “A particular focus area for us is therefore reducing the costs of pre-wash treatment, particularly in relation to the food waste sector where we see huge potential.”

CSO Technik currently has six live contracts for the provision of biogas desulphurisation/odour control systems on UK gas to grid projects. “Our equipment is typically located after the digester and prior to the upgrading system to reduce H2S loads into the upgrader, but it can also be situated after the upgrader to provide odour control,” states Colin Froud, Chief Executive. “Biological systems perform best when under stable operating conditions and do not react instantaneously to changes in either load or volume. Consequently, our sentry polishing system, to provide a final polish and remove other contaminants such as VOCs, is an important tool in ensuring maximum availability with minimal operational costs.”

Imtech is working closely with Severn Trent Water to develop a biomethane gas to grid injection plant at Minworth sewage treatment works (STW), due to complete this autumn. The site already has 16 anaerobic digesters, which produce around 3,400m³/hr of biogas; the new gas to grid plant is set to convert approximately 1,200m³/hr to biomethane. “This £6.3m project has an anticipated payback period of just three years and, when combined with the existing CHP plant, will ensure that Minworth STW is energy self-sufficient, with increased income,” explains David O’Malley, Technical Manager for Imtech, which selected Malmberg’s water wash technology as the most suitable solution. Erik Malmberg, export Director for Malmberg, advises any would-be developers to take a long term view before selecting a technology provider: “Suppliers are usually evaluated on initial investment cost, but it is important to look beyond the price tag. Extend the investment horizon to 15 or 20 years and demand proof from suppliers of historical reinvestment for similar plants. This will make it easier to compare technologies and associated operational costs. Our contract with Northumbrian Water, for example, was won following an evaluation on life cycle perspective, not just initial costs.”

Malmberg has also been contracted for two further STW upgrading projects; Howdon, for Northumbrian Water, and Avonmouth, for Wessex Water. Membrane and cryogenic upgrading technology from Pentair Haffmans is being used on three UK projects
More spaghetti?
Upgrade your biogas the energy-efficient way with SEPURAN® Green

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These yellow tubes constitute the core of Evonik’s SEPURAN® Green membrane technology.
They do a marvelous job of separating CO₂ from biogas efficiently, yet inexpensively.
By introducing biomethane into the gas grid, you supply a substitute for the fossil-based natural gas and can thereby reduce the use of greenhouse gases in a sustainable way.
Our reference plants can be found in Germany, England, Italy, Netherlands, Switzerland, Thailand, and U.S.A.
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As all these projects demonstrate, there is great potential in the UK agricultural, food waste and wastewater treatment industries for biogas upgrading. One company looking to exploit this is Schmack Carbotech, which already operates 60 upgrading plants worldwide using its patented pressure swing adsorption (PSA) system. “The best use for biogas is injection into the gas grid, not only because it’s more energy efficient but also because the sale price for gas is more economically stable when compared to electricity prices,” says Eberhart Wusterhaus Gomez, International Business Manager. “With so much competition in the renewable electricity sector (wind, solar, hydro, etc), prices will steadily decrease, in contrast to prices for natural gas.”

And with upgrading technology advancing all the time, the financial rewards are only set to grow. Pentair Haffmans’ upgrading systems are based on a combination of membrane and cryogenic technology and offer operators an additional income stream, as Sjoerd van der Sterren, Head of Marketing & Business Intelligence, explains: “Our system includes a unique second process step, during which the CO₂ is further cleaned, completely eliminating the environmentally damaging methane slip and resulting in a higher methane yield. The CO₂ by-product can also be recovered and sold for use in a variety of applications, including greenhouse growing.” The company currently has three upgrading projects in the UK: a 500 Nm³/h plant at Spring Hill Farm in Worcestershire, commissioned in January 2013; a second larger project (1,800 Nm³/h) for the same customer, set to go live this June; and a 1,120 Nm³/h project in Euston, Norfolk, completing in October 2014.

Since going live in 2012, the UK’s first commercially successful gas to grid plant, at Poundbury, has injected over 3,000,000m³ of biomethane into the grid and achieved an operational uptime of more than 96% in its first year. Distinctive features of the DMT Carborex® MS technology used at Poundbury include maximum grid time, ease of operation and the flexibility to operate under a wide range of conditions — considerations that every developer should bear in mind when selecting upgrading technology, according to Stuart Bennett, Director of Heat and Power Services, UK distributor for DMT. “A plant operator may not have a chemical process engineering background, so developers should always consider the day to day operation of the plant,” he advises. “Our system is automated, offering the operator peace of mind, but a local 24/7 call out service is always available and can be on site in a matter of hours.”

With Poundbury proving a resounding success and upcoming projects such as ReFood Widnes, Coupar Angus and Minworth STW demonstrating the potential of biomethane for a range of AD feedstocks, the variety of upgrading solutions available is only set to grow. Great news indeed for the UK’s flourishing biomethane sector.

www.biogaspower.co.uk
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www.carbotech.info
www.haffmans.nl
www.heatandpowerltd.co.uk

A wide range of upgrading technology suppliers will be exhibiting at UK AD & Biogas 2014, 2-3 July, NEC Birmingham. See p22-23 for our full show preview.
The demand for biomethane is large and growing, both domestically and internationally. However, the key issue facing a producer trying to unlock the value of their output is getting a market value which reflects biomethane’s unique ‘green’ characteristics compared to fossil natural gas. Enabling biomethane producers and consumers to transact ‘green’ gas at a transparent, market price – which achieves just that – was the reason we set up Green Gas Trading Ltd and the Biomethane Certification Scheme (BMCS).

Effectively, the BMCS allows producers to separate the biomethane they produce into the basic gas – homologous with and tradeable as natural gas – and the ‘green’ or ‘bio’ element. The biomethane certificates (BMCs) issued under the scheme represent the green element. The BMCs have more interested buyers than the physical gas – more buyers means more demand and therefore a higher price – and it is this which offers the premium to producers.

What are the benefits of the Biomethane Certification Scheme compared to a simple gas tracking certification scheme?

Having a uniform, easily accessible contract (in this case in the form of the BMC) on an electronic platform allows the market to determine the premium that users will pay for ‘green’ gas. Divorcing the physical gas from the certificate allows the producer to transact the physical gas at the market price for that product, whilst seeking the highest economic value for the ‘green’ element (the BMC). These two elements, plus the RHI, make up the total value to the producer of their biomethane, and secures them the highest market value for their product overall.

Options for biomethane producers to sell their BMCs directly to end-users include:
- Via a bi-lateral transaction alongside the gas;
- On Green Gas Trading’s web-based, transparent, public trading platform;
- By transferring them to the buyer of their choice as part of an off-take agreement.

The advantage to end users is that, by purchasing BMCs, they are able to decarbonise their existing gas supply without affecting any existing contractual arrangements – and in the very near future, we believe they will also be able to evidence their green gas purchases for statutory compliance.

Looking to the future

We were very happy to welcome our first producer, Future Biogas, to the scheme last year and are anticipating our first issuance of certificates from their Doncaster plant imminently. I believe that 2014 will be a landmark year in the development of biomethane to grid in the UK, with a large number of projects coming to fruition, and I look forward to welcoming further producers to the Biomethane Certification Scheme in the near future.
JOIN US IN CELEBRATING AD EXCELLENCE

With all entries to the third UK AD & Biogas Industry Awards now submitted and ready to be reviewed by our high profile judging panel, will you be joining us for the industry’s biggest social event of the year? Held at Concourse Suites 1-2, NEC Birmingham, on the first evening of UK AD & Biogas 2014, this black tie event is the perfect opportunity to unwind from the first day at the exhibition, celebrate the finest AD achievements of the past 12 months and network with over 270 guests from across the industry.

THE CATEGORIES

• Innovation in sewage treatment through AD
• Innovation in food waste collection
• Innovation in process efficiency/optimisation
• Making the most of digestate
• Making the most of biogas
• NEW Best supporting service
• NEW Best on-farm AD project
• NEW Best food & drink industry AD project
• NEW Best merchant waste AD project
• NEW Best small scale AD project (sub 250 kW)
• AD hero/team of the year

We will publish the full list of nominees at the beginning of June, so keep watching your inbox, our website or follow us on Twitter @adbiogas/#UKADBiogas

Sponsor an award and stand out from the AD crowd

From headline sponsorship, to sponsoring individual awards or even our drinks reception, align your company name with excellence and achieve high brand visibility with one of our great value sponsorship packages. To find out more about the pre- and post-awards pr and marketing opportunities available, contact Ben Brougham at Vitesse Media, our awards organisers:

T +44 (0)207 250 7051
E ben.brougham@vitessemedia.co.uk

“Sponsoring the AD Hero of the Year Award has given us greater exposure and raised awareness of our offering to operators, suppliers, regulators and other stakeholders. And as a result of networking during the event itself, we won a large contract with an AD operator to design its competence profiles.”

Kevin Thrower, National Skills Academy (2012 award sponsor)

Superior networking opportunities

Treat yourself, your team or your clients to a glamorous evening of excellent networking, great food and fabulous entertainment. This black tie event includes a drinks reception, three course meal, comedian, awards ceremony and after party. Prices for ADBA members from £1,200 (table) and £130 (individual); non-members from £1,400 (table) and £160 (individual), all ex VAT. To book contact Rachelle Cornel at Vitesse Media, our awards organisers:

T +44 (0)207 250 7043
E rachelle.cornel@vitessemedia.co.uk

“The UK AD & Biogas Industry Awards is an excellent forum in which to showcase innovation and achievement. Tamar Energy proudly sponsored the Innovation in Food Waste Collection Award as we believe best practice in this important area should be shared with and celebrated by our sector.”

Bill Elliott, Tamar Energy
Show Preview

THE ENTIRE AD INDUSTRY UNDER ONE ROOF

Now located in the larger Hall 3, UK AD & Biogas returns for its fifth year (2-3 July, NEC Birmingham), bringing you the UK’s biggest live platform for all things AD and biogas.

The highlight of the industry calendar, this two day, free to attend trade show is the ideal place for AD newcomers and experts alike to source technology and services; get AD-specific advice; meet high level decision makers; generate new business leads; and find out the very latest information, developments and opportunities in the UK AD market.

This year’s event will also host a free conference plus 22 seminars and workshops, as our Policy Manager, Matt Hindle, explains: “An industry as varied as AD needs a wide focus, which is exactly what the conference and seminars at UK AD & Biogas provide. This year’s speakers will consider everything from the viability of smaller scale AD on farms to the latest developments and opportunities.”

WHAT’S ON OFFER?

- 3,500+ visitors
- 240+ exhibitors
- Free conference sponsored by Imtech
- 22 free seminars sponsored by Evonik
- NEW R&D Hub
- Biomethane vehicle area
- Edina networking café
- Free one to one advice clinics
- AD site visits
- UK AD & Biogas Industry Awards 2014

WHO’S ATTENDING?

- Farmers and landowners
- Supermarkets, food and drink processors, manufacturers and retailers
- Hospitality and food service businesses
- Local authorities
- Financiers
- Waste management companies
- Utility companies
- Fleet managers
- Government agencies
- Consultants
- Lawyers
- Insurers
- AD equipment manufacturers and suppliers
- AD builders, developers and operators
- And many more...

3,100
attendees at
UK AD & Biogas 2013

70%
of visitors to UK AD & Biogas 2013 were senior decision makers
Show Preview

WHY EXHIBIT?

• Reach a targeted audience directly interested in AD and biogas
• Attract new business
• Enjoy two full days of networking
• Share information and best practice and debate key industry issues
• Receive a free listing at adbiogas.co.uk and in the event guide
• Invite your clients and contacts for free

NOW SOLD OUT!
To join our waiting list for exhibitor stands and advertising and sponsorship opportunities, contact:
E jamil.ahad@adbiogas.co.uk T +44 (0)203 176 4414
E rachel.fenton@adbiogas.co.uk T +44 (0)203 176 5418

developments in the biomethane to grid market. And with only a year until the next general election, I am particularly looking forward to debates on issues such as waste policy, which could help to shape the industry going forward.”

Another highlight is our brand new R&D Hub, perfect for those visitors interested in exploring AD research and development, where delegates will be able to find out how R&D could support their business. “The R&D Hub will offer businesses and researchers the chance to explore AD research and development; consult clinics on funding and commercialisation; make new contacts in our twice daily networking events; hear short presentations; and view poster exhibitions,” outlines Rosaline Hulse, ADBA’s R&D Liaison Manager. “In short, it will be a focal point for all visitors interested in AD R&D, communicating the potential benefits in a lively and engaging way.”

CONFERENCE TOPICS

• How AD fits into the circular economy
• Adapting to depression of financial incentives
• AD – the political outlook
• AD’s place in sustainable farming
• The importance of R&D in bringing down costs and increasing returns
• Driving AD best practice
• How can we drive the best use of resources, and increase feedstock availability?
• Finance – the importance of operational performance for investment
• New digestate products
• And much more…

WHO’S SPEAKING?

• Chris Huhne, Strategic Advisor, ADBA
• Ken Webster, Head of Innovation, Ellen MacArthur Foundation
• Partha Vasudev, Vice President (Waste & Bioenergy), GIB
• Stuart Hayward-Higham, Technical Development Director, SITA UK Ltd
• Nina Sweet, Specialist Advisor, WRAP
• Richard Barker, Chief Executive, Biogen
• Harriet Parke, Junior Consultant, Euonomia Research & Consulting
• Helena Busby, Head of Bioenergy, Defra
• Michael Chesshire, Director, Evergreen Gas
• Richard Swannell, Director of Sustainable Food Systems, WRAP
• Matt Taylor, Senior Environmental Scientist, ADAS
• Alexander Maddan, Chief Executive, Agrivert
• Charlotte Morton, Chief Executive, ADBA
• And many more – see www.adbiogas.co.uk for the latest programme

WHAT OUR EXHIBITORS SAY

“UK AD & Biogas is always well attended and vibrant, attracting a healthy mix of new opportunities and existing customers, and creating an excellent networking environment.”

Ben Donaldson, MT Energie

WHAT OUR VISITORS SAY

“A great opportunity to be in the midst of what is happening in the world of AD - a real one stop experience.”

Graham Russell, Defra

Register now for your FREE ticket at www.adbiogas.co.uk

240 companies exhibited at last year’s event

93% of visitors rated last year’s event as good to excellent
SUSTAINABILITY CRITERIA DISCUSSIONS CONTINUE

We recently responded to an Ofgem consultation on complying with sustainability criteria under the Renewables Obligation (RO), set to become mandatory for projects above 1 MW from April 2015. Our response stressed the need for clarification on the treatment of digestate as a co-product, suggested clarifications around the approach for apportioning emissions between different consignments of feedstock, and requested clear guidance on allowing inputs such as nitrogen inhibitors, which can reduce the emissions from growing feedstock.

We are also continuing to liaise with DECC on the development of a calculator for demonstrating the sustainability of crop-based AD, which can be used to report greenhouse gas (GHG) emissions from biogas projects under the RO. We are also discussing the issue of emissions from biomethane projects when RHI sustainability criteria are introduced in autumn 2014.

NEW RHI/FIT TARIFFS CONFIRMED

Government has confirmed that once the legislation is in place this spring, support for biogas combustion under the Renewable Heat Incentive (RHI) will be extended beyond the previous 200 kWh limit. Support will shortly be available at the following rates, indexed for 20 years:

- <200 kWh and biomethane injection (all scales) = 7.5p/kWh
- 200≤600 kWh = 5.9p/kWh
- >600 kWh = 2.2p/kWh

Following the disappointing news on the Feed-in Tariff (see p4), a 20% reduction for smaller scale projects was introduced from 1 April 2014, at the following rates:

- ≤250 kW = 12.46p/kWh
- >250-500 kW = 11.52p/kWh
- >500 kW-5 MW = 9.49p/kWh

UK IN AGREEMENT OVER EU ENVIRONMENTAL POLICY

Government has published the conclusions of its review of the ‘balance of competences’ between the EU and UK governments on the environment and climate change, one of a series of reports across different policy areas to determine whether the UK or EU should decide on policy and regulation. Respondents included a range of trade associations, NGOs and businesses, including ADBA, who appear to have broadly agreed on the major questions.

The majority of respondents believed that EU competence has increased environmental standards in the UK and across the EU and that this has led to improved performance in addressing several environmental issues. Respondents also thought that future EU action should focus on improving implementation of the existing laws, rather than seeking to expand environmental protection into further areas of Member State activity.

This process and its conclusions are likely to have limited immediate effect on environment and climate change policy, but will be used to inform any renegotiation of the UK’s position in Europe. However, the report suggests that there is little desire for major change in terms of the level at which such policy is set.
ADBA RESPONSE TO DFT CONSULTATION BRINGS SUPPORT FOR BIOMETHANE FUEL

The recent publication of industry recommendations to support the gas and biomethane vehicle market (see p6) is partly thanks to our participation in the DfT Low Emission HGV Task Force, and evidence provided by our members. Our response to a recent Department for Transport (DfT) call for evidence on advanced fuels argued for two amendments to the Renewable Transport Fuels Obligation (RTFO), to incentivise the use of biomethane in vehicles. We stated that biomethane should receive quadruple, rather than double, counting and that the DfT should amend the scheme to ensure that biomethane receives the RTFO on energy equivalence with diesel.

We also outlined that government should amend the guidelines to greenhouse gas conversion factors for company reporting and allow fleet operators to apply a biomethane conversion factor when purchasing biomethane certificates. In addition, we set out that incentivising biomethane production – by providing certainty over financial incentives for AD, and providing greater support for separate food waste collections – was vital to the sector’s long term viability.

WORK CONTINUES ON BARRIERS TO GAS GRID INJECTION

Following up on the work of the Energy Market Issues for Biomethane (EMIB) group, the biomethane ‘campaign’ group, established by ADBA and the Energy Networks Association (ENA) to facilitate the injection of biomethane into the gas grid, is continuing its work with Ofgem to address regulatory barriers to project development. Ownership of calorific value (CV) measurement equipment at biomethane sites has often been raised as an area where clarification is needed, and Ofgem has informed the group that a letter clearly laying out the regulator’s interpretation of the legal position is expected to be sent to Wales and West Utilities shortly.

Ofgem will also be taking forward a project on CV measurement issues, with the ultimate intention of providing information on the effect that changes to the regime would have on energy consumers. In addition, EMIB is waiting for final confirmation that the Gas Distribution Networks will fund research into siloxanes in biomethane.

See p16 for our technical feature on gas upgrading

GET INVOLVED

The campaign group is also hoping to take forward some work on approaches to reserving capacity on the gas grid during project development. Members who have been affected by connection capacity issues are urged to contact matt.hindle@adbiogas.co.uk.
MT-ENERGIE EXPANDS UK OPERATIONS

Biogas plant manufacturer MT-Energie UK is significantly widening its UK presence, expanding its Shropshire premises to cope with increased demand. After doubling the number of plants built in 2013 compared to the previous year, the company is set for an even busier 2014. A total of ten further orders are already in the pipeline for the coming year, including construction of Scotland’s first gas to grid project, based at Coupar Angus. This will bring the total number of MT-energie facilities in the UK to 20.

“Our customers have chosen us because of our proven technology, highly skilled workforce and our ability to deliver cost effective plants with extremely high levels of availability,” states Ben Donaldson, National Sales Manager. “Our plants can easily process maize and manure as well as coffee, poultry manures, distillery residues and a broad range of other organic residues. With a new warehouse and a larger team we aim to enhance the response to our customers’ needs in terms of service and maintenance,” adds Ben.

www.mt-energie.com/GB

For details of MT-Energie UK’s gas to grid project in Coupar Angus see our technical feature on gas upgrading, p16

INVESTMENT FOR REFOOD UK AS PDM GROUP REBRANDS AS SARIA

Food waste recycling firm PDM Group has changed its name to SARIA. While PDM Group will now be known by the name of its German sister company, its UK-based AD facilities will continue to operate under the ReFood UK label. The rebrand forms part of a growth strategy which includes a £91m spend on ReFood UK operations, incorporating £44m of investment in new AD facilities at Widnes and Dagenham, and a £12m expansion of its Doncaster AD facility, due to be completed this summer. “2014 will be a landmark year, with our ReFood Widnes site due to start operations, and construction on our new state of the art facility in Dagenham set to start in the spring,” says Philip Simpson, Commercial Director, SARIA.

www.refood.co.uk

AD OPERATORS ENGAGE FUTURE GENERATIONS

Child-friendly campaigns from AD operators Biogen and Emerald Biogas are set to encourage a new generation of food waste recyclers. With schools in England generating over 80,000 tpa of food waste, the ‘Waste Warriors: Food for Thought’ project from Emerald Biogas aims to increase pupils’ understanding of green energy production. Schools participating in the two week project will have their food waste collected and processed at the facility, with pupils promised school and site visits, educational activities and a poster competition.

Meanwhile, Biogen has recruited a pair of superheroes to help promote the benefits of AD. And although Biogen Ben and Anna Robic™ have been designed with children in mind, it is anticipated that their interest will also help to raise awareness in adults of the need to dispose of food waste correctly. “The superheroes will be used to inform and motivate; whether it’s a retailer who needs to show back of store operatives how to successfully separate food waste out from other waste streams, or a local council who wishes to reinforce its recycling message or support its work with schools,” explains Anita Smith, Marketing & Communications Manager.

www.emeraldbiogas.com
www.biogen.co.uk

Adam Warren, Director of Emerald Biogas, with Waste Warrior mascot, Winston

Philip Simpson, Commercial Director, SARIA
SITA SEEKS ‘REAL WORLD’ SOLUTIONS TO CHALLENGE OF URBAN RECYCLING

Waste contractor SITA UK has commissioned charity Keep Britain Tidy to carry out a nationwide enquiry into why recycling rates in urban areas remain comparatively low. In a bid to produce ‘real-world’ solutions, the charity, which is part-funded by Defra, and consultation specialist BritainThinks will host two separate two-day Citizen Juries in London and Manchester, involving members of the public in a detailed education and solution-building process. These solutions will then be tested by a wider independent public poll, before the outcomes are revealed later in the year. Andy Walker, Keep Britain Tidy’s Campaigns and Communications Director, comments: “All too often debates about recycling do not include ordinary people. These juries are an opportunity for the man, or woman, on the street to have their say on an important issue that affects us all.”

www.sita.co.uk

LANDIA CHOPPER PUMPS INTEGRAL TO £5M AD OPERATION

A piped digester mixing system incorporating Landia pumps is playing an integral role at Biogen’s new £5m AD operation near Caernarfon, North Wales. The 11,000 tpa GwyriAD facility includes a Landia chopper pump that mixes 12% dry solids in a buffer tank. A further two chopper pumps resuspend grit by the use of a pressurised ring main with four jetting nozzles, while digestate at dry solids 8% is pumped by two more Landia chopper pumps at a flow rate of 36-72m³/hour. The system also includes a 4 kW 1,500rpm Landia pump to transfer digestate at dry solids 15%, at a flow rate of 20m³/hour.

“Landia’s chopper pumps play an important part in the process, proving very capable of handling the different cycles of food waste,” states Biogen’s Julian Stelmasiak.

www.landia.co.uk

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AD PLANT BIOLOGY REVEALED AT FREE EDUCATIONAL EVENT

A one-day free educational event from AD nutrition specialists FM BioEnergy (‘Healthy bacteria, healthy profits’, 4 June 2014, National Motorcycle Museum, Birmingham) is set to reveal the secrets to operating a healthy plant. A range of expert speakers from FM BioEnergy, parent company BOCM Pauls, German product partner Schaumann and the wider AD industry – including our own Charlotte Morton – will explain how biologically optimising an AD plant will give operators and developers more control, more methane and a faster return on investment. Alongside success stories from food waste and agricultural plant operators, the day’s topics will include: feedstock behaviour and gas yield potential; the importance of regular monitoring and analysis; the role of nutritional additives, and advice on how to fast-track optimum performance. “Getting to grips with plant biology is key to AD success,” advises Tim Elscombe, FM BioEnergy Business Development Manager. “This event will give operators the tools to better manage their plant and increase their profit margins.”


BIOG UK LAUNCHES REVOLUTIONARY AD SHREDDER

Agricultural AD developer BioG UK has teamed up with industrial shredder specialist Mach Tech Services Ltd to market a new AD shredder, guaranteed to increase gas yields. The Lindner Limator, constructed by Lindner Recyclingtech of Austria, is a versatile modular impact crusher that breaks down feedstock using movable crushing paddles and the momentum of the rotating materials, so does not rely on cutting knives. The Limator can be operated continuously or in batch-processing mode and is fitted with a Hardox inner lining, which increases its durability. Robert Greenow, Director of BioG UK, explains: “We’re very excited to be able to launch the Limator in the UK. It’s a fantastic piece of kit and we could see instantly how much benefit and efficiency it will bring to an AD plant. We really believe this will change the way AD plants operate in terms of efficiency and feedstock inputs.”

www.biog-uk.co.uk

PRISM PLANNING SECURES GO AHEAD FOR TWO ON-FARM PROJECTS

AD consultants Prism Planning are celebrating after securing planning permission for two on-farm AD plants in recent months. The first, a 400 kW AD facility at Washfold Farm in Richmond, is located in an environmentally sensitive area, close to the Yorkshire Dales National Park. Despite concerns that the tank would impact negatively upon the landscape, Prism was able to prove otherwise, securing a speedy approval from Richmondshire Council. The second scheme at Wray House, Malton, also in Yorkshire, was for a 200 kW plant. Following months of wrangling on technical issues, permission has now been granted and construction is expected to begin shortly. “In addition, we will soon go before North Yorkshire County Council to have a larger food based AD scheme considered,” says Steve Barker, Managing Director. “As the site is next door to RAF Leeming, we have had to design the scheme around various radar issues with digestate tanks being clad in wood rather than steel to minimise radar reflections – a first for us!” All three projects have been promoted by JFS & Associates, who are delivering a number of AD developments around the UK.

www.prism-planning.com    www.jfsassociates.co.uk

The importance of plant biology to a successful AD operation will be explained at FM BioEnergy’s forthcoming conference

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www.prism-planning.com    www.jfsassociates.co.uk

The Lindner Limator promises to increase gas yield without the use of cutters
Members’ News & Views

MOVERS AND SHAKERS

Awards success for PROjEN

PROjEN has won the IChemE Bioprocessing Award for an innovative two-phase digestion process, including a first stage hydrolysis phase with ten times the efficiency of conventional continuous stirred tank reactors. Shane Pugh, Sales and Marketing Manager, enthuses: “We were all really thrilled to have been recognised by the IChemE for this prestigious award; innovation and thinking outside the box have always been at the heart of what we do.”

www.projen.co.uk

Tamar provides AD solution for Essex food waste

As part of a £1.7m deal with Essex County Council, Tamar Energy will recycle household food waste from the county through its network of AD plants. Around 4,000 tonnes will be processed at the AD operator’s Basingstoke plant while construction is completed at its new plant in Halstead, Essex. An estimated 7,000 tonnes of food waste is due to be processed at the Halstead plant by the second half of 2014. “This contract represents our first partnership with a local authority in England,” comments Mat Stewart, Tamar Energy's Head of Feedstock. “This once again demonstrates that AD is a genuine waste management option for local authorities that can provide tangible financial and environmental benefits.”

www.tamar-energy.com

See feature ‘Extracting food waste’, p8

Weltec plants set to go live

Two new plants from Weltec Biopower are set to go live in the next few months. A 500 kW plant for Foyle Food Group in Londonderry, Northern Ireland will be fed with waste from the industrial meat processing company’s abattoirs, while a second 500 kW facility, based in Leicester, will process mainly maize silage.

www.weltec-biopower.co.uk

L-R: Nick Hewer, awards host; Shane Pugh, Sales and Marketing Manager, PROjEN; Gary Montague, Director of Newcastle University’s Biopharmaceutical Bioprocessing Technology Centre
FIRST SERIES OF FARMERS’ MEETINGS ANNOUNCED

Our first series of regional AD Farmers’ Introductory Meetings will take place this autumn. Designed to give farmers an introduction to AD, an overview of the AD options for farming businesses, considerations when designing an on-farm AD plant, and details of the support and expert advice available, the meetings will take place on the following dates:

- 4 November 2014, Exeter
- 6 November 2014, Cambridge
- 18 November 2014, Shrewsbury
- 19 November 2014, Penrith

To register for a meeting or for further information visit www.adbiogas.co.uk

INAUGURAL CROP OPERATOR MEETING PROVES ENLIGHTENING

Last month saw the first meeting of our Crop Operator group, which was held at Bidwells' offices in Cambridge. Members discussed the range of crops that can be used in AD and how these can be managed sustainably, and also looked at the use of novel crops such as cup plant and wildflower mixes. The group agreed that there were lessons to be learnt from Germany, as well as from the ongoing trials at Warwick University.

Growing maize for AD was a key topic for discussion, with operators urged to closely analyse the Environment Agency’s (EA) River Basin Management Plan in order to avoid issues with run-off. The use of silage clamps was also on the agenda; factors to consider include drainage, ease of access, height, covers, lining and capacity, as well as the fact that it can be difficult to move or reconfigure silage clamps.

Where maize is not a viable option, attendees learnt of a number of alternative conventional crops that are appropriate for AD — wholecrop rye, for example, offers high yields, nitrogen and water use efficiency, blackgrass control and a wide drilling window. The use of energy beet in a crop rotation also offers high yields, buffering capacity, high water use efficiency and a wide harvest window.

Another hot topic was biomass sustainability criteria, particularly given the increased media attention on the use of crops for AD. There was consensus that any sustainability criteria should take into account methane emissions mitigated through treating farm manures and slurries through AD. The group also discussed whether regulatory measures such as the Single Farm Payment criteria could possibly be used as fair sustainability criteria for AD. ADBA is currently finalising Crop Best Practice guidance, which is expected to be completed in the next few months.

Finally, attendees considered the suggestion that more farm wastes would be treated by the AD sector if the EA took a lighter approach with regard to the stringent requirements for treating farm wastes. Concerns were also raised around the proposed removal of support under the Enterprise Investment Scheme for installations accredited under the Renewable Heat Incentive, as announced in last month’s Budget.

The next meeting of the Crop Operator group, which is likely to incorporate a site visit, will take place in the summer.

GET INVOLVED

Our working and operator groups cover the whole spectrum of the AD industry, shaping debate, raising standards and influencing policy. To find out more, or to attend a forthcoming meeting, go to the members’ area at www.adbiogas.co.uk or contact our Policy Officer Jordan Marshall on jordan.marshall@adbiogas.co.uk or +44 (0)203 176 5540.
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www.mono-pumps.com
**A PROFITABLE PLANT STARTS FROM THE INSIDE**

I recently joined a group of AD operators on a study tour to Hamburg courtesy of AD nutrition specialists FM BioEnergy. Comprising site visits to AD plants, a tour of the research labs at Schau mann (FM BioEnergy’s product partner) and presentations on improving biogas yields through the use of additives and trace elements, the trip proved an enlightening experience.

As many operators have discovered, an AD plant cannot simply be left to its own devices; it requires active monitoring and managing if it is to be profitable. However, as we soon learned, the stability of the AD process depends on a variety of factors – not just simple variables such as temperature, mixing, retention time, and feedstock volume and frequency, but also more complex elements such as a feedstock’s carbohydrate, protein and fat composition; the microbial population; the presence and concentration of ammonia and other inhibitors; and concentration and availability of trace elements.

The tour was incredibly informative and drove home the FM BioEnergy philosophy; that to maximise biogas output – and therefore profit – it is crucial to understand AD biology and how it interacts with feedstock. This philosophy holds true whether or not you plan to supplement your process with additives or trace elements. I came away from the event with the overriding message that operators must have in place robust monitoring and management procedures for their AD process. Without knowing what’s going on inside your tank, it’s impossible to make informed decisions about how to optimise your plant, and maximise your profits.

HEALTHY BACTERIA, HEALTHY PROFITS

FM BioEnergy is holding a free, one-day educational event, ‘Healthy bacteria, healthy profits’, 4 June 2014, Compton Suite, National Motorcycle Museum, Birmingham. Revealing the secrets to operating a healthy plant, the conference will feature a range of expert speakers including our Chief Executive, Charlotte Morton. Spaces are limited – see p29 for full details or go to www.fmbioenergy.co.uk
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- Technical services and biological support

More information at www.schmack-biogas.com
Upcoming Events

**ABBA MEMBERS’ MEETING**

24 APR 2014

Maclay Murray & Spens, One London Wall, London EC2

Featuring in-depth discussions on pressing issues such as the recent disappointing FIT announcement, this is shaping up to be one of the most important Members’ Meetings to date. This member only event also provides an opportunity to hear the latest industry news and market analysis, as well as discuss the development of the best practice scheme.

www.adbiogas.co.uk

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**REGATEC 2014**

22-23 MAY 2014

Scandic Triangeln, Malmö, Sweden

REGATEC 2014 is the first international conference on renewable energy gas technology. With a technical and industrial focus, and directed towards thermo-chemical and microbial conversion of biomass and waste to biomethane, the event includes plenary and parallel conference sessions, a poster session, an exhibition and excellent networking opportunities.

www.regatec.org

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**ABBA MEMBERS’ REGULATOR DAY**

23 MAY 2014

Walker Morris LLP, Leeds

This free to attend, member only event will tackle the most important regulatory issues facing the AD industry today. Presentations from the EA, HSE and AHVLA will keep AD operators, consultants and developers abreast of the latest changes to regulation, best practice and compliance, while afternoon workshops will feature case studies and Q&A sessions. See p6 and p36 for more details.

www.adbiogas.co.uk

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**UK AD & BIOGAS 2014**

2-3 JUL 2014

Hall 3, NEC, Birmingham

The UK’s biggest free to attend AD trade show offers the very best from AD service and technology providers, expert presentations, high level discussions and networking with senior decision makers. From understanding the business case for AD and how to maximise operational performance, to changing policies and regulation – as well as the latest AD innovations – UK AD & Biogas 2014 is a must-attend event for anyone involved in or keen to learn more about the UK’s thriving AD industry. Moving to the larger hall 3, this is set to be our busiest show to date, with over 3,500 visitors, 240+ exhibitors, a free two day conference, 22 free seminars and workshops, a biomethane vehicle area, a new R&D hub, free advice clinics and the third annual UK AD & Biogas Industry Awards. Register now – see p22-23 for a full preview.

www.adbiogas.co.uk

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**UK AD & BIOGAS INDUSTRY AWARDS 2014**

2 JUL 2014

Concourse Suites 1-2, NEC Birmingham

Hosted by ADBA, the AD industry’s third annual awards ceremony will showcase achievements and innovation right across the AD sector and reward the ‘best of the best’. This glittering black tie event features a drinks reception, three course meal and entertainment for over 270 guests. Book your place now to avoid disappointment. See p21 for a full preview.

www.adbiogas.co.uk

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**WELCOME NEW ADBA MEMBERS!**

- Alpha Financials
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- CBS Beton
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- General Engineering Management Ltd
- Griffith Elder & Co Ltd
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- Ipurtech
- Landfill Systems
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- Melrose Pigs
- Mosscliff Environmental Ltd
- North Coast Energy
- Northern Alliance Brokers
- Remarkable Group
- Runrec
- SNF (UK) Ltd
- Stephens Scown LLP
Membership Matters

WHY JOIN ADBA?

Why should I join?

"If you have an interest in AD then we are your best support tool, helping to address your issues, highlight opportunities and promote your business in the AD marketplace. Keeping you up to date with industry news and developments, consultations and legislative/regulatory changes as they happen through the news pages of our website, including member only blog posts and our weekly member email updates, membership of ADBA gives you all the information you require to maintain your competitive advantage.”

What policy support does ADBA offer?

“Since I started my new role I have been truly amazed by the depth and quality of knowledge of our policy team – they are dedicated, enthusiastic and knowledgeable, the result of being truly focused on the AD and biogas industry.”

What’s ADBA doing to help move the AD industry forward?

“Apart from helping to promote the benefits of AD and our members through our events, publications and communications, we are also the voice of the AD industry. Feeding in the issues and views of ADBA members, we work closely with government departments and regulators to drive the sector forward. Important issues the policy team is currently working on include the future of small scale AD following Feed-in Tariff degression, revision of PAS 110, the review of the RHI biomethane tariff and overarching permitting standards under BREF.”

How will you support members?

“My aim is to respond quickly to members’ requirements in an ever challenging market. We are here to offer you the very best advice and support on every AD issue and to help your business grow.”

MEET WAYNE, OUR NEW HEAD OF MEMBERSHIP

“My business development experience working for a small scale wind turbine company enables me to quickly grasp the key issues in the AD and biogas industry. I previously worked for large media organisations in publishing and events, bringing communications outreach skills for all our members. I look forward to learning how your business works, and how we can support your objectives.”

E wayne.hurley@adbiogas.co.uk
T +44 (0)203 176 5416

What should I do next?

“Call me! I much prefer to talk to people, as this gives me the opportunity to understand quickly the needs of potential members and how we can best help.”

Join us today at www.adbiogas.co.uk

NEW REGULATOR MEETINGS FOR ADBA MEMBERS

Our very first ADBA Regulator Day is being held next month, addressing key regulatory issues facing the AD industry. Taking place on Friday 23 May 2014 at ADBA member Walker Morris’ offices in Leeds, this free to attend, member only event will provide ADBA members with information on the latest changes in regulation, best practice and achieving compliance (find out more on p6).

Who will be speaking?

• Viv Dennis, Environment Agency
• Liz Evans, Health and Safety Executive
• Scott Reaney, Defra’s Animal Health & Veterinary Laboratories Agency

Who should attend?

• AD operators
• AD consultants
• AD developers

Why attend?

• Discuss the latest regulatory issues affecting your AD business
• Hear industry updates direct from the regulators
• Network with ADBA members new and old
• Question expert speakers

To find out more and to register for free, go to www.adbiogas.co.uk/events/

HEAR FROM WRAP, DECC, OFGEM AND MORE AT OUR NEXT ADBA MEMBERS’ MEETING

Our next Members’ Meeting will take place on Thursday 24 April 2014 at the London offices of ADBA member Maclay Murray & Spens. Including updates on financial incentives, the Sustainability Calculator, the Best Practice Scheme and the current market, this event will be the perfect place to find out the latest industry developments, question government representatives and network with fellow ADBA members. Please join us after the meeting for our free drinks reception. To find out more and to register for your free member place, go to www.adbiogas.co.uk/events/

“...”

Jonathon Dixon, Chesterfield Biogas
SAFETY FIRST

The importance of good asset management

As the AD marketplace develops, legislation and operational outputs are becoming more demanding. The industry is faced with having to introduce advanced technical solutions to meet operational and business objectives and our responsibilities are clear – the safety of people, our assets and the environment is paramount as we do business effectively and responsibly.

Asset management is therefore an integral part of ensuring safety. AD assets must be supported with comprehensive management systems and strategies that focus on good practice and high standards, whilst integrating effectively with other business management systems and processes. Our preferred asset management system is a web based solution which is capable of supporting the delivery of our AD operations, planned/reactive works, safety management and performance, asset management, asset integrity, workspace management, customer operations, spares and consumables, resource management, purchasing, contract management, lifecycle analysis, auditing and much more.

To manage safety at all levels, personnel must be qualified and competent. In our company, site-based staff work from handheld PDAs and have access to their work activities electronically; all risk assessments/methods statements (RAMs), permits to work, and company, operational and emergency procedures are available online. This means that all information is available in real-time, so we can track and trend the operational and safety performance of each region, asset or team.

To ensure maximum safety performance across all operations, a ‘control hub’ environment can be extremely beneficial, accommodating experts in their given field, who remotely monitor, interrogate and optimise a company’s assets. As well as ensuring safety, this approach also offers optimal commercial benefits for both a business and its customers.

To summarise, over-arching integrated asset management systems, combined with real-time information and tracking systems, can greatly help an AD business to safely manage its operations and assets.

www.ch4e.co.uk

Neil Thompson has more than 20 years’ experience in the energy sector, specialising in multi-site operations with companies such as E.ON and Vital Energy. Neil is currently Operations Director for CH4e, responsible for managing a growing portfolio of AD assets across the UK.

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www.planet-biogas.co.uk
**AD ON THE HOSPITALITY HORIZON**

Over 90 food service sector representatives, AD operators and waste managers took part in our new style, interactive AD & Hospitality Conference. Representatives from Whitbread, KFC, Elio, McDonald’s and Hilton Worldwide were among the guests debating the benefits of, and barriers to, AD for the food service industry, which generates avoidable food waste worth £686,400 each year from restaurants alone.

Martin Bates, Chief Executive, Craft Guild of Chefs, chaired the event which saw break-out groups of participants draft a list of the top barriers affecting AD uptake. Legislation, financial viability and knowledge/training were noted as the top three across all groups. Significant points relating to the AD process were also raised, including the need for more plants with depackaging facilities. “The waste broker we used worked hard to find the right food waste collector so that our restaurants could dispose of packaged food waste if necessary. This has significantly increased the amount of food waste we can send to AD,” said event attendee Janet Cox, Head of Health and Safety, KFC UKI.

Segregation was a hot topic, with many of the fast food chains highlighting that good practices in their kitchens were diminished by difficulties in persuading front of house customers to separate food waste. The design of more intuitive waste bins was suggested as one way to engage the general public into better segregating their food waste. The hidden cost of maceration was also discussed, with Mike Hanson, Head of Environment and Programme Management at BaxterStorey, and ADBA’s newest board member, revealing that macerators can consume up to £5,000pa of energy and 15 litres of water every minute, with total costs up to five times greater than waste collection fees.

John Dyson, Food and Technical Affairs Adviser for the British Hospitality Association (BHA), concluded: “With food prices a significant cost for hospitality businesses, the focus for our sector is first and foremost to reduce the volume of food waste produced. But there will always be some portion that cannot be avoided – that’s why the BHA has partnered with ADBA to highlight the benefits of anaerobic digestion as a treatment option for unavoidable food waste.”

**WELCOME BARBARA**

“After graduating from law school in France, I pursued careers in horticulture and catering before making the leap into marketing. My varied background has given me the ability to embrace new topics and situations, and I’m looking forward to promoting such a worthy cause.”

Barbara Landell Mills, Marketing Executive
E barbara.landell-mills@adbiogas.co.uk  T +44 (0)203 176 7767

**WELCOME HELEN**

“I have more than ten years’ marketing experience in events and publishing, having worked on conferences, awards, exhibitions and publishing products for organisations such as the FT, Informa, Emap and Energy Intelligence, as well as member organisations such as IOSH. It is a pleasure to be undertaking a role at an organisation which is so clearly committed to both its members and the AD industry as a whole.”

Helen Reddick, Head of Marketing Services
E helen.reddick@adbiogas.co.uk  T +44 (0)203 176 0592

**FAREWELL LOUISE**

We are sorry that Louise Wallace, our Commercial Director, will be leaving ADBA this month, after more than four years with the association. Having helped to establish ADBA, UK AD & Biogas, and much more, Louise is now looking for new challenges. We will all miss her very much and wish her the best of luck with her future endeavours.
HRS HEAT EXCHANGERS - THE INDUSTRY LEADERS IN INNOVATIVE AND ENERGY SAVING DIGESTATE TREATMENT

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This innovative continuous-batch system also utilises thermal regeneration of heat from the raw and pasteurised sludge to reduce running costs.

The HRS continuous 3 tank batch pasteuriser process can handle a wide range of feed stocks and can be placed pre or post digester to allow for site flexibility.

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HRS offers both the DTI and DTR range for AD/Digestate applications – The DTR range has a removable inner tube which makes it suitable for sludge to sludge applications.

For more information contact: michael.adkins@hrs.co.uk T. 01923 232335 www.hrs.co.uk

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Over- Underpressure relief device UU-GD for hard top digestors

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